

**THE
RAILWAY GAZETTE**

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INCORPORATING

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ELECTRIC RAILWAY TRACTION

A Supplement illustrating and describing developments in Electric Railway Traction is presented with every copy of this week's issue

Railway Plans for Whitsun

WHITSUNTIDE railway facilities this year offer numerous novelties, in addition to the permanent attraction of long-distance travel at a speed and range of fares enabling all to make the most of the holiday. Much interest has already been aroused by the announcement that the G.W.R. is to run a "Kiddies' Express" to Weston-super-Mare on Whitsun Monday, with free distribution of paper hats and puzzles to all passengers and entertainers performing on the train. A more scholarly outing is that planned by the L.M.S.R. from St. Pancras to Edinburgh and back, giving facilities for visiting the Border Abbeys and Edinburgh beauty spots. This should afford many Londoners the opportunity of making inexpensive acquaintance with a route to Scotland that may not normally occur to them. The L.M.S.R. also reports an exceptional demand for camping coaches this Whitsun. In these days the provincial dweller is as well served as anyone with excursion variety. Cross-country trains on the L.N.E.R. will run between places as remote from the point of view of ordinary connections as Rugby and Hunsington, or Leicester and Harrogate. Land and water travel is offered both by the L.N.E.R. with trips to Hull

for a sail on the Humber, and to Liverpool for cruising to Llandudno; and by the Southern Railway with its ever-popular Seine cruise and conducted day trips to the Continent, now penetrating as far as Paris.

* * * *

Railway Rates Tribunal Report

The seventeenth annual report of the Railway Rates Tribunal, covering the year 1938, shows an increase in the number of applications for the approval of agreed charges under the Road & Rail Traffic Act, 1933. Of such applications 818 were filed compared with 706 in 1937. The number of orders made by the tribunal under the Act during the year amounted to 824, of which 575 related to merchandise train traffic, 245 to passenger train traffic, and four to both classes of traffic. In 72 cases it was provided that the trader will hand to the railway companies the whole of the traffic described in the agreement for carriage by rail or for conveyance throughout by road, subject in the latter case to a charge of the same amount as the agreed charge and to conditions specified in the agreement. The 824 orders covered the whole or a specified portion of the traffic of 840 traders and to the extent of 268 related to new agreed charges. Extracts are given from the judgment of the tribunal delivered on June 2, 1938, on its annual review of standard and exceptional charges, and from its judgment on December 13, 1938, on railway freight rebates. Reference is made in the report to the application for a special rate of 8s. 6d. a ton for bricks between Fletton and Halifax which was pending at the end of 1938 and was sanctioned this year. An important decision was given on June 14, 1938, when the tribunal sanctioned experimental door-to-door rates for the conveyance of all descriptions of merchandise in Classes 7 to 20 between Glasgow, Aberdeen, Dundee, and Perth; subject to a minimum of 4 tons.

* * * *

The Week's Traffics

An increase of £207,000 for the past week, following on one of £187,000 for the 19th week, in comparison with the corresponding periods of 1938, is shown by the four main-line companies. For the year to date the aggregate fall is now brought down to £838,000.

	20th Week				Year to date	
	Pass., &c.	Goods, &c.	Coal, &c.	Total	Inc. or Dec.	%
L.M.S.R. ..	- 1,000	+ 49,000	+ 25,000	+ 73,000	- 362,000	-1.53
L.N.E.R. ..	+ 2,000	+ 24,000	+ 42,000	+ 68,000	- 423,000	-2.42
G.W.R. ..	+ 2,000	+ 31,000	+ 22,000	+ 55,000	- 17,000	-0.17
S.R. ..	+ 6,000	+ 3,000	+ 2,000	+ 11,000	- 36,000	-0.48

Whitsun Monday traffics and the London bus strike influenced the earnings in the 1937 week with which the following table makes comparisons:—

	20th Week				Year to date	
	Pass., &c.	Goods, &c.	Coal, &c.	Total	Inc. or Dec.	%
L.M.S.R. ..	- 124,000	+ 77,000	+ 43,000	- 4,000	- 705,000	-2.94
L.N.E.R. ..	- 79,000	+ 32,000	+ 48,000	+ 1,000	- 518,000	-2.94
G.W.R. ..	- 43,000	+ 46,000	+ 46,000	+ 49,000	- 63,000	-0.64
S.R. ..	- 83,000	+ 9,500	+ 4,500	- 69,000	- 92,000	-1.22

Compared with the first 20 weeks of 1937 the 1939 earnings to date of the four companies show decreases of £809,000 in passengers and of £948,500 in merchandise, but an improvement of £379,500 in coal.

* * * *

Traffics and Prospects

Discussing the "square deal" report and the recent rise in traffic receipts, *The Times* utters an appropriate warning against too much optimism in regard to the prospective distributions by the four main-line railways for the present year. To begin with, the recent weekly gains have to a great extent reflected the fact that the trend

of receipts was falling sharply at this time last year. It is for this reason that for the past few weeks we have been showing how this year's figures compare with those for 1937, so that a more accurate idea of the real situation may be presented. Again, it can hardly be expected that the very considerable reductions in working expenditure effected in the second half of last year will be automatically repeated this year. In the first half of 1938 the companies had to face the increases in salaries and wages brought about by the restoration in August, 1937, of the last portion of the reductions made in March, 1931, and by the granting of certain other concessions, estimated together to represent a total addition of £2,900,000 per annum for payments to the staff. The wage scales are now the same as in the first half of 1938, and the additional traffic is likely to cost more. Finally, it is at least uncertain whether any major immediate benefits would result to the companies should Parliament adopt the recommendations of the "square deal" report.

* * * *

The Swansea & Mumbles Railway

Of the many small railway undertakings in various parts of the country, none excels in historical interest the Swansea & Mumbles Railway, which was formed under an Act passed as long ago as June 29, 1804. Horse traction provided the motive power until August 17, 1877, when steam locomotives were introduced, and since March 2, 1929, electric tramcar-type vehicles have maintained the passenger service. For many years past passengers have provided the chief traffic, justifying the electrification, but it seems that changes in public taste are now resulting in severe inroads to this. The lessee of the line is the South Wales Transport Co. Ltd.—the local bus company—and at the annual meeting of that undertaking last month, Mr. Sidney E. Garcke, the Chairman, said that the Mumbles Railway was suffering like the main-line railways from a steady and, he feared, a permanent increase in the popularity of its rival, the road, with a consequent increased loss. Some of the passenger traffic lost from the railway is gained by the company's buses, though that is a poor consolation since the company is obliged to incur the cost of working both systems; but a very large part of the traffic has gone to the private motor-car and the cycle.

* * * *

Advertising Out of Place

A contributor last week expressed doubt on the wisdom of extending commercial advertising in railway carriages. He suggested that travellers have become attached to the customary views displayed in compartments, and that the intrusion of advertisements in their place would by itself create the hostility felt for an interloper, to say nothing of the fact that to ride for some hours opposite an exhortation to buy a commodity may arouse hostile feelings towards it. This subject of advertising out of place in its wider interpretations is one that naturally engrosses the attention of the Council for the Preservation of Rural England, whose Lancashire branch has issued a threepenny booklet entitled "Posters and the Public." From the advertiser's point of view, the roadside poster is not open to the objection just recorded against the railway carriage advertisement, for the poster is addressed to the fleeting attention of passers-by. On the other hand its drawback of spoiling the scenery is equally calculated to put the public back up. Apart from the æsthetic argument, the reasonable view is put forward that if the roadside poster is as compelling as publicity experts declare it to be, it must distract the attention of motorists and contribute to accidents.

In-situ Grouted Sub-Ballast Concrete Mattress

The problem of reducing track maintenance costs on lines carrying heavy traffic, at points where exceptionally treacherous subsoil is encountered, is constantly engaging the attention of American permanent way engineers. Some nine miles south-east of Cleveland, the Pennsylvania Railroad crosses in shallow cutting a belt of blue clay that is for most of the year saturated, due to subsoil water coming to the surface. The line carries heavy ore and coal traffic, and passenger trains, running at speeds up to 70 m.p.h., are frequent. Hitherto the track has had to be lifted frequently and levels corrected twice a week. So the engineers decided to try a concrete mattress between the ballast and formation, but instead of using pre-cast slabs as laid by the Missouri Pacific Railroad, in the manner described in our issue of August 26 last, they decided to excavate the ballast and one foot of the formation, and to spread a foot of 1½-in. to 2½-in. stone ballast in place of the latter, and grout it with what amounted to approximately a 2 to 1 mixture of sand and cement, mixed in a mixing train moving along an adjacent siding, and fed by gravity through 2½-in. fire hose-pipes. A length of 800 ft. was thus matted, to a width of 10 ft. and thickness of 1 ft.

* * * *

Two Methods of Laying Mattress

The mattress described in the preceding note was formed by two different methods. For the first 600 ft. the permanent way was dismantled and the stone ballast for the mattress was unloaded from trucks on an adjoining track. Labourers spread it and rammed it with 12-in. × 12-in. oak rammers; the surface had a 1-in. camber. The grouting proceeded at the rate of 1.1 ft. per min., and it was found that the grout ran forward along the formation about 4 ft. ahead of each hose. The grouted stone was then again rammed, but a rough surface was intentionally left for retaining the track ballast subsequently. The replacement of the track began on the third day after grouting, and it was laid on the mattress and subsequently jacked up on to the ballast which had been spread in the meantime. Traffic was allowed over the track at reduced speed 10 days after grouting. The second method adopted for the final 200 ft. of mattress did not entail the taking of the track out of service for any length of time, two-rail-length sections being rebuilt in a seven-hour period. The ballast for the mattress was dropped on to the excavated formation from a considerable height from clam-shell grab buckets, but was not rammed after spreading. As the grouting proceeded—in the same manner as before—it was immediately followed by the laying of the track ballast on the mattress, and the track was relaid and in service again within the 7-hr. period. Trains ran over the track and mattress two hours after the grouting.

* * * *

De Luxe Trains for South Africa

With the introduction of the new air-conditioned steel coaches now nearing completion at the works of the Metropolitan-Cammell Carriage & Wagon Co. Ltd., at Saltley, Birmingham, another progressive stage will have been reached in the already remarkably advanced locomotive and rolling stock standards of the South African Railways & Harbours. These vehicles, which we recently had an opportunity of inspecting at the builder's works, will provide luxury travel between Johannesburg and Cape Town and *vice versa*. The trains, known as the Union Limited and Union Express, operating in this service at present make the journey of 966 miles from Cape Town to Johannesburg in 27 hours, and in the opposite direction the timing is 26 hours including a number of stops in both

cases. It is, however, intended to shorten the journey time when the new trains are put into service. The vehicles have been built to the specification of the railway administration and no effort has been spared in making them as comfortable and luxurious as possible. They are composed of day and sleeping cars, kitchen, lounge, and dining cars, together with a segregation van. The latest type of air-conditioning apparatus is applied throughout the trains. In another part of this issue will be found a full description, with illustrations, of the new trains, and although nothing short of actual inspection can really bring home the admirable features of design and workmanship incorporated in the trains, it is hoped that the article will serve to make these facts sufficiently clear to our readers.

* * * *

Guide to Literature

Station approaches and booking halls are often made untidy by discarded handbills, plucked at random and later thrown away. A certain wastage due to the acquisitive instincts of small boys is unavoidable, but much can be saved by directing the attention of genuine inquirers immediately to the services likely to interest them. A notice board lately erected by the L.M.S.R. at Euston represents a new and thoughtful approach to a subject sometimes casually treated. On the board itself are posted excursion notices in their simplest form, reduced to destination, fare, and date. Every notice has a key number, which is repeated on the glass-fronted handbill racks at each end of the board. Attention being caught, shall we say, by notice No. 5, the intending passenger is guided at once to rack No. 5 and finds therein a handbill giving detailed information. This unusual bargain travel guide is installed on the arrival side of the station and is the first object to attract the eyes of passengers emerging from the Underground. Excursion literature continues to be available in the booking hall, but a notice there points the way to the new information centre.

* * * *

Mural Decoration Revived

The custom of painting the walls of rooms is probably the oldest form of interior decoration, but the fashion of the painting has changed with the artistic trend of the moment; murals, however, in some form or other have never entirely disappeared from the decorator's quiver. Two examples of the art by Mr. Norman Wilkinson adorn the entrance hall of the new L.M.S.R. School of Transport at Derby, and aroused much favourable comment on the opening day. We suggested in our issue of July 29 last that something of the kind might be considered for the new Euston station. It is, therefore, interesting to hear that Beatrice MacDermott, whose work has already brought her fame, has just finished a characteristic embellishment of this type for the walls of the restaurant of the L.M.S.R. Midland Hotel, Derby. Inspiration sprang from visits Queen Victoria paid to the city, and the charming murals portray Her Majesty in three sequences—in her Coronation robes, entering the hotel with members of her family, and driving behind dashing creams to Chatsworth House. The artist is to be congratulated on a very dignified and pleasing treatment of a subject that could so easily have become stiff and overpowering if executed by less skilful hands.

* * * *

South Africa's First Locomotive Found

The *Natal*, the first locomotive to run in South Africa, has just been discovered in scattered fragments in a bush-covered valley near Port St. John on the south coast of Natal. Several wheels and the main frame have been unearthed and identified, but the boiler has so far eluded

the searchers. Steps have already been taken by the railway administration to piece together these relics, and the re-assembled engine will then be declared a national monument and displayed either at Durban railway station or in a museum. This locomotive began its working life in June, 1860, on the railway between Durban and the Point, which was built by a joint stock company and opened on June 26, 1860, and was thus the first railway on the African continent. It is thought probable that, having served its turn locally, this locomotive was sold to a sugar dealer on the south coast, after which it was abandoned. The *Natal* was described by a Zulu to a friend of the historian, George Russell, as "A strange beast; its belly is full of fire and vapour; they feed it with water and wood logs; it is like a rhinoceros, but it blows smoke and sparks through its horn; it is stronger than the elephant, and it is a rude beast, for it belches inside like a witchdoctor and exhales hot water and embers when people only look at it; what it is is beyond our comprehension."

* * * *

Grinding Machines in Railway Shops

Two new grinding machines installed in the St. Rollox workshops of the London Midland & Scottish Railway are described on page 869 of this issue, and reference is made to the saving of time and greater accuracy secured by the use of these appliances. The precision grinding machine has now become such a commonplace item in modern workshops that the exacting demands made upon it for accuracy are apt to be overlooked. In one form or another it is used for the final operation on the work piece, the accuracy and success of which, therefore, depend upon the machine. As was pointed out by Mr. H. H. Asbridge in a paper he presented to the Institution of Mechanical Engineers for discussion, increasingly exacting demands are now being made, both as regards output and accuracy, on all classes of machine tools, and this tendency affects most severely the grinding machine, as no matter what tolerances have been made in rough machining operations it is on this latter machine that the ultimate result depends. In far too many cases the tendency is to leave it to the grinding machine to correct shortcomings in the preliminary operations. Such a policy affects adversely the output of the machine when it has been computed on the basis of the amount of metal removed.

* * * *

A Stand-up Strike

From Belgium comes a story of a strike by forty passengers at Houdeng-Goegnies, near Charleroi, who refused to enter a crowded railcar. Unlike Londoners and Parisians, whose strikes have been of the variety known as "sit-down" or "lie-down," the sturdy Belgian provincials stood their ground, literally and metaphorically, taking up their positions in front of the railcar. After an argument lasting twenty minutes, the stationmaster gave way and shepherded them into another train. Their sacrifice of comfort for principles clearly marks a new departure in passenger strike technique. Judging, however, from the recent observations of a columnist in the *Daily Express*, New Yorkers take as a matter of course rush-hour "jams" that would make a dweller on this side of the "herring-pond" blanch. The trains on the New York Subway have automatic doors which can be opened when the train is already moving from a platform; those who arrive just after the "right away" are quick to take advantage of this, and fight their way in where the mere European, be he English, French, or Belgian, who fondly thinks himself long-suffering, would fear to tread.

The "Square Deal" Report

WHEN the report of the Transport Advisory Council on the railway companies' "square deal" proposals was issued last Friday, it was seen at once that its recommendations were of greater import to the future of transport in this country than had at first been envisaged. The council is to be congratulated upon securing such a remarkable degree of agreement upon such far-reaching proposals, and its findings (summarised on pages 855-858) should prove to be a most important step towards the co-ordination of the country's transport services by means of which the community will secure the most efficient service at the lowest economic cost. This unanimity appears of greater significance when it is recalled that the council is composed of 29 persons representing such diverse interests as local authorities, users of mechanically propelled vehicles, users of horse- and horse-drawn vehicles, pedestrians, pedal cyclists, railways, canals, coastwise shipping, harbours and docks, labour, and trading interests, including agriculture, with the Rt. Hon. Sir Arthur Griffith-Boscawen as Chairman. Our readers will recollect that the council was asked by the Minister of Transport on December 12, 1938, to consider the memorandum submitted by the railways to him on November 23 and December 8, 1938. These memoranda contained a reasoned account of the disastrous effect which the legal disabilities under which the railways are operating as compared with motor transport was having on their financial position and urged that (i) the existing statutory regulation of the charges for the conveyance of merchandise by railway, together with the incidental requirements such as publication and undue preference, should be repealed; and (ii) that the railways, like other forms of transport, should be permitted to decide the charges and conditions under which they carry merchandise. In remitting the matter to the council the Minister indicated that he was inclined to the view that, in existing circumstances, there was *prima facie*, a case for some material relaxation of existing statutory regulations, provided that regard was had to the ultimate objective of the co-ordination of all forms of transport.

The council met on December 15 and appointed a special committee to consider the companies' claims. This committee decided that the railway representatives should discuss their proposals with the trading and other transport interests for the purpose of ascertaining whether any common measure of agreement could be secured. It will be appreciated that the subject was full of controversial issues, and at first the nature of the conflicting interests involved gave little hope that any appreciable measure of agreement would be reached. The railways then submitted a further memorandum to the council, modifying their original proposals for complete freedom to the extent that they dropped their claim for relief from their obligations as to affording reasonable facilities, through rates, or standard conditions of carriage. They suggested, however, that arrangements should be made for regular periodical meetings between trading interests and the railways for the discussion of railway rates and charges, trade prices, and matters of common interest; and, although they still desired to make such reasonable charges as they thought fit, they proposed that traders should have the right—if agreement could not be reached through their trading associations—to appeal to the Railway Rates Tribunal. This modification, coupled with the conciliatory spirit in which all parties approached the problem and the willingness of the companies to offer the fullest possible safeguards to the trading public, resulted in the achievement of a much greater measure of agreement than might have been expected from such diverse interests. In the

result, agreement was reached with every interest except the coal mining industry, and the committee was thus able to present an almost unanimous report.

The report, which was considered and adopted by the council, expresses the conclusion in regard to the companies' main claim that a material relaxation of the present statutory control of charges is necessary to assist the companies in reaching conditions which will provide a favourable approach to the ultimate objective of co-ordination. It expresses the belief that an ordered system of transport under appropriate and correlated systems of control is essential in the interests of the community as a whole. It further proposes that any Act which may be passed as a result of the recommendations should be regarded as a temporary measure to meet an emergency, and should be limited in its duration to not more than five years or such shorter period as may be necessary to establish such a degree of co-ordination as will avoid unnecessary overlapping of services and uneconomic competition. With these principles in mind, the report recommends that the present system of the control of railway freight rates should be abolished and that the statutory provisions relating to the classification of merchandise standard charges, exceptional rates and agreed charges, should be repealed. Consequent upon this recommendation the provisions under which the Railway Rates Tribunal is under a legal obligation to adjust charges so as to secure a standard revenue become inappropriate and should be repealed. It is also recommended that the statutory provisions as to the equality of charges and undue preference and the right of traders to require the disintegration of exceptional rates should be repealed. On the question of the publication of rates, the railway companies expressed their intention of making their charges known on appropriate commercial lines to all interested parties, but agreement could be reached only with certain national organisations as to the manner in which this should be accomplished, and, as the council was unable to resolve the differences on this point, it made no recommendation.

The importance of giving adequate safeguards to trade and industry is fully recognised, and the proposals on this point fall under two heads. The first provides that railway charges should be "reasonable," and gives the trader the right of appeal to the Rates Tribunal should he be dissatisfied. The second provides for the arrangement of regular voluntary periodical meetings between the railways and representatives of trade and industry for the purpose of discussing matters of common interest, including railway charges. It is recommended that a general increase of charges shall not be made by the railway companies except by agreement with the appropriate traders' conference, and, failing agreement, the matter is to be referred to the Rates Tribunal, which shall fix reasonable charges. In the case of individual increases, failing agreement, the trader concerned may refer the matter to the Rates Tribunal either through his trading association conference, or direct, as he may prefer.

The necessity for protecting other forms of transport is also recognised and the recommendations are in the main based upon agreements reached in the course of discussions between the interests concerned. With regard to road transport, provision is made for consultation on matters affecting both parties, including the free discussion of difficulties and the consideration of constructive measures. For this purpose a consultative committee styled the Road and Rail Central Conference (with power to appoint regional committees) has been set up to formulate the principles on which voluntary agreements can be entered into between road and rail regarding the charges to be made for the carriage of goods, either generally

or in particular cases, thus facilitating the correlation of rates. Owing to the unorganised state of the road transport industry generally, it is recommended that observance of such rates agreements shall be legally enforceable, that the agreements shall be discussed with the trade or industry concerned, and be subject to the approval of a road-rail tribunal. Somewhat similar arrangements as to periodical conferences have been agreed in connection with coastwise liner and tramp shipping, while, in the case of non-railway-owned docks, it is proposed that voluntary machinery shall be established to secure closer contact and co-ordination and that such docks shall have the right of appeal to the Railway and Canal Commission on the question of prejudice. The council also recommends that any relief from rate control or other requirements afforded to the railways should also, as far as practicable, be extended to canals, with which the railways already hold periodical conferences on matters of common interest. The council considers that if these recommendations are implemented by legislation, they will afford an opportunity for the railways to evolve, in conjunction with the other transport interests, a correlated system of charges to meet the requirements of every branch of trade and industry. Its recommendations have been generally welcomed and it now remains for the Minister to press the Government to introduce the necessary legislation with the least possible delay.

* * * *

Special Wagons for Special Traffics

IN August, 1937, we recorded that the L.M.S.R. had decided to put into service 100 12-ton open wagons of a special shock-absorbing design for the conveyance of fragile goods. We now learn that after successful experiments with six specially sprung shock-absorbing vans, the G.W.R. has decided to build a further 100 vans and also 100 open vehicles of a similar design. These announcements are illustrative of the manner in which the British railways are endeavouring to meet the transport requirements of particular industries or traffics. Apart from the 50,000 special wagons which are available for the carriage of such exceptional loads as heavy castings, ships' propellers, traction engines, bridge girders, plate glass, meat and other perishable foodstuffs, the railway companies are constantly bringing new types of wagons into service. Thus, for the conveyance of soda ash, which is so fine that it would percolate between the boards of ordinary wagons, a number of all-steel covered wagons have been built, each capable of carrying 16 to 20 tons. They are fitted with four roof inlets for loading and the contents are discharged by means of eight steel hoppers below the floor. Another special type of wagon has been evolved to facilitate the conveyance of alumina, which is now being despatched in large quantities. It was originally carried in 2-cwt. bags, but owing to the wastage in filling caused by the fineness of the powder, experiments were made to ascertain whether it would be possible to carry the traffic in bulk. As a result, a number of special wagons with steel bodies, partly riveted and partly welded, are now being used for the conveyance of the traffic. The vehicles are 20 ft. long, with a tare weight of 10½ tons and an inside capacity of 738 cu. ft. The traffic is loaded through four openings in the roof and ladders and walking boards are provided to facilitate access to the loading doors. Four six-inch valves are provided in the floor of the wagons for the discharge of the alumina, these being fitted with indiarubber diaphragms operated by means of a shaft carried to the side of the wagon.

For the conveyance of brick traffic, special 50-ton

wagons fitted with automatic brakes and full drop sides have been built, which are capable of carrying 19,800 bricks. The operations of the Central Electricity Board have involved the carriage of numbers of very large electricity transformers, and the British railways have therefore provided a number of specially designed transformer wagon sets, some of which are capable of carrying loads up to 120 tons. These costly pieces of apparatus are suspended from the tops of side girders, which can be adjusted in width as necessary. For the conveyance of motorcar bodies, covered bogie wagons have been built, capable of accommodating up to nine standard sized bodies, which can be independently secured to longitudinal baulks running the whole length of the floors; and covered goods vans with end doors, complete with crossbars and straps to secure the vehicles, are in constant use for conveying finished motorcars. Specially fitted vehicles are used in some instances for the carriage of casks and ale in barrels or cases, while special vehicles are used for carrying salt and yeast, the latter commodity being conveyed in ventilated yeast vans. In addition to possessing these large fleets of special rail vehicles, the companies have also spent considerable sums in providing specialised road haulage equipment which can be used for dealing with traffic throughout by road, or as an ancillary service to the railway conveyance. This equipment includes heavy road tractors and trailers, motor lorries, lifting jacks, ball-bearing platforms, portable turntables and many other devices. Thus the railways are able to offer a comprehensive transport service which is continually being enlarged and improved to assist the development of trade and industry.

* * * *

Swiss Federal Railways

THAT the financial results from the operation of the Swiss Federal Railways in 1938 should be less favourable than those for 1937 was not unexpected. The fall in goods receipts towards the end of 1937 had indicated another set-back in trade, and some rise in expenses was expected from an increase in the cost of materials and the improbability of any reduction in payments to the staff. Receipts from transport in 1938 amounted to fr. 307,622,994, a decrease of fr. 15,971,841 or 4.9 per cent. in comparison with 1937, and the slightly lower reduction of fr. 15,171,023 or 4.5 per cent. in gross receipts was due to an improvement of fr. 800,818 in miscellaneous receipts. Passengers increased in number by 1.21 million or 1.1 per cent., but in passenger receipts there was a drop of fr. 1,128,017 or 0.8 per cent. The advance in numbers was mainly in home tourist traffic, as financial reasons and the political situation kept away many foreign tourists. In merchandise traffic the decrease was 1.91 million or 12.1 per cent. in tonnage, and receipts from goods and postal traffic showed a decrease of fr. 14,843,824 or 7.8 per cent. International transit traffic amounted to 2.15 million tons, a decrease of 1.41 million tons in comparison with 1937, which was almost entirely in coal consignments, and represented about 74 per cent. of the total decrease. Internal traffic showed little change.

The Federal Chambers on September 30, 1938, approved, without material alteration, the scheme proposed by the Federal Council in June, 1937, relating to the regulation of road transport. The Federal decree on the subject will apply for five years, but at the end of 1938 it had not been decided on what date the decree would become operative. The 1937 scheme of the Federal Council had deliberately left private goods transport by road unregulated except for a formal requirement of registration, and it remains to be seen what attitude the

council will take on a proposal submitted to it in the spring of 1938, and whether it will oppose an amendment designed to give constitutional force to the principle that long-distance traffic should mainly use the railway. Tariffs had since 1926 been arranged by the Sesa Company with consignees for the protection of rail consignments against lorry competition. Control of these traffics is now being taken over by the Federal Railways administration. Door-to-door services are being further developed and the number of consignments by these services is over 1,000,000 per annum.

In the actual operating expenses of fr. 229,484,644 there was an increase of fr. 4,856,131 or 2.2 per cent. Payments to the staff in 1938 amounted to fr. 186,577,419, compared with fr. 184,188,679 in 1937, although the number of staff was reduced from 27,970 to 27,566. Passenger train-kilometres amounting to 35.47 millions showed an increase of 1.68 million or 5 per cent., but in the goods train-kilometres of 11.13 millions there was a reduction of 523,000. The final result of the year's working, after making allowance for interest charges, &c., is a deficit of fr. 35,238,051, comparing with fr. 14,556,778

in 1937. The accompanying table compares results in the past two years. At present the rate of exchange is about fr. 20.81 to the £:—

	1937	1938
Passenger numbers	111.99 millions	113.20 millions
Goods traffic, tons	15.78 millions	13.87 millions
Train-kilometres	45.5 millions	46.6 millions
Operating ratio, per cent. ..	66.40	71.02
	Fr.	Fr.
Passenger receipts	133,034,133	131,906,116
Goods and postal traffic receipts	190,560,702	175,716,878
Gross receipts	338,312,023	323,141,000
Expenses	224,628,513	229,484,644
Net receipts	113,683,510	93,656,356

The new station at Niederweningen was opened on May 15, 1938. Among the new works in progress are the doubling of the line between Emmenbrücke and Sentimatt, improvements at Geneva and Neuchâtel stations and a deviation and doubling of lines as between Wilerfeld and Berne. At the end of 1938, of the 2,885 km. of lines belonging to and worked by the administration, 1,102 km. were double-track. Some 23 level crossings were eliminated during the year.

LETTERS TO THE EDITOR

(The Editor is not responsible for the opinions of correspondents)

Moral Rearmament

Wildern, Blackheath,
Guildford, Surrey
May 22

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—May I, as a former railwayman, as the author of "Death on the Way," a railway detective story which you were so kind as to review, and as one associated with the Oxford Group, express my appreciation of your report of the Holborn Restaurant meeting and of your admirable editorial thereon. I am sure these paragraphs will be fundamentally helpful to railway workers and therefore to railways.

Yours sincerely,
FREEMAN W. CROFTS

The Fastest Steam Locomotive

Abford House, Wilton Road,
Westminster, S.W.1
May 20

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—I have read with interest Lord Monkswell's article "Locomotive Power and Efficiency" which appeared in your issue of April 21.

Referring to his remarks in regard to the high-speed tests carried out in Germany with the streamlined 4-6-4 engine No. 05,002 as described in *Glaser's Annalen* of December, 1935, it might be of interest to your readers to know that the maximum speed attained during those tests has now been exceeded in tests carried out with this engine in the following year.

During a trial run made on May 11, 1936, engine No. 05,002 with 197 tons behind the tender attained a speed of 201 km.p.h. on the level—i.e., 124.8 m.p.h. As far as I know this is the highest speed ever attained by a steam locomotive and it may, therefore, be justly claimed that engine No. 05,002 is the fastest steam locomotive in the world.

Yours faithfully,
J. CLUBLEY ARMSTRONG

[According to the best of our information, the world record for steam is held by the London & North Eastern Railway Company's streamlined Pacific *Mallard*, which reached a speed of 125 m.p.h. (actually for a very short distance 126 m.p.h. was found on the dynamometer chart) in the course of a test run on July 3, 1938. Full details were included

in our issue of July 8 of last year, at page 78. Comparison with the German record was made in an editorial note we published at page 315 of our August 19, 1938, issue; we then pointed out that we had been advised officially by the Reichsbahn that the highest speed attained by its streamlined 4-6-4 locomotives was 200.4 km.p.h. (124.5 m.p.h.) on a test run between Berlin and Hamburg.—Ed. R.G.]

The Millwall Extension Railway

137, Icknield Way, Letchworth
May 21

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—With reference to the article on page 351 of THE RAILWAY GAZETTE of March 3, 1939, I find that passenger trains ran between Millwall Junction and Millwall Docks from December, 1871. Although the trains ran only in the morning and afternoon and were intended primarily for workmen at the docks, presumably ordinary passengers were also conveyed as the trains were shown in *Bradshaw*.

Yours faithfully,

H. V. BORLEY

[The article in question recorded the opening of the Millwall Extension Railway from Millwall Junction to Glengall Road (Millwall Docks) station on December 18, 1871, and the extension thence to North Greenwich on July 29, 1872. We added that passenger traffic began on the latter date. We were indebted to the L.N.E.R. for checking this information, and presumably July, 1872, marked the beginning of an ordinary through passenger traffic. Our correspondent's letter is interesting as showing that a limited passenger traffic—mainly for workmen—was carried over a section of the line a few months earlier.—Ed. R.G.]

NETHERLANDS RAILWAY CENTENARY.—There has been some misapprehension regarding the exhibition train to represent the first railway in the Netherlands which is to run at the forthcoming Amsterdam exhibition. We stated in the editorial note on page 719 of our May 5 issue that this train would not be built to the broad gauge originally used by the Holland Railway Company, but would be of standard gauge. We now learn, however, that the exhibition train has been built to the broad gauge, and its running will thus be limited to the exhibition. Incidentally, the broad gauge in the Netherlands—commonly called two-metre—was in fact 1.94 metres, or approximately 6 ft. 4½ in.

PUBLICATIONS RECEIVED

London & North Eastern Railway Magazine.—This month's issue of the *L.N.E.R. Magazine* is introduced with a frontispiece of King's Cross—not the railway terminus, but the most easterly point of South Arran. Mr. John T. Peat, of the Marine Superintendent's Office, Glasgow, writes on the historical associations of the spot with Robert the Bruce, and the contrast between the King's Cross of Arran and its southern namesake. The centenary of *Bradshaw* is commemorated with an article on the founder of the guide, in which the average timetable user will find much new information. A notable recent engineering event has been the reconstruction of Calder bridge, between Doncaster and Wakefield, work in connection with which imposed a speed limit at this point on the West Riding Limited express in its early days. Mr. R. J. M. Inglis, Engineer, Southern Area, describes how the new steelwork was assembled on the river banks and then erected by continuous work throughout the 24 hours for 13 days. A very detailed article also appears on the Liverpool Street-Shenfield electrification scheme, with a double-page diagram of the lines, stations, and connections with the extended Central Line tube.

Train Signalling. By T. H. Carr, with foreword by Mr. T. W. Royle, Chief Operating Manager, L.M.S.R.; 24 pages, 7½ in. × 9½ in., 2 diagrams, list of "Is Line Clear?" bell signals and head code chart. Reprinted from *L.M.S. Magazine*. 2d. net; 4d. including postage.—The present publication is a reprint of a series of articles contributed by Mr. Carr during 1937 and 1938 to the *L.M.S. Magazine*, revised to include the amendments to the regulations up to the present date. Their object is to provide a comprehensive guide to the standard double line block regulations (single lines are not touched on, calling for separate treatment in important respects). The author deals with the fundamental principles of the block system and its predecessor, the time interval system, and, owing to the impossibility of showing every type of block apparatus in service on the L.M.S.R. lines, limits himself to an outline description of Fletcher's combined block telegraph instrument, so widely used on the former L.N.W.R. There are, however, a few brief references to the features of other types, such as the rotary apparatus.

Mr. Carr proceeds to treat the principles of each block regulation in turn, analysing the various operating conditions under which it can play a part and explaining the steps demanded of signalmen and others in fulfilling the requirements; emphasis is rightly laid on special and unusual conditions, always the most difficult to deal with, their correct handling being the true test of a signalman's competence. The actual text of the regulations is not

reproduced, however, the reader being assumed to use them and any special instructions applying to his own signal box or locality, in conjunction with the present work. It is, of course, precisely when something occurs out of the ordinary that a thorough knowledge of rules and procedure is called for, a fact by no means always sufficiently appreciated. Mr. Carr's articles cover the subject with great care and cannot fail to be of help to those who require to have the block regulations at their finger tips; they will be valuable alike to those entering on a study of the subject and others who need to refresh their knowledge from time to time. Although dealing with the L.M.S.R. bell codes and rules, the text is necessarily of much wider application, and should prove a valuable and welcome aid to the staffs of all our main-line railways.

Die Entwicklung und der Stand der Zugbeeinflussung bei der Deutschen Reichsbahn. (The Development and Present Position of Automatic Train Control on the German State Railway.) By Reichsbahnrat Krauskopf. Berlin, S.W.68, Vienna, and Leipzig: Otto Elsner Verlagsgesellschaft. 8½ in. × 11½ in. 165 pp. 169 photographic illustrations and 144 diagrams. Price RM. 6.40.—An account of the ground covered by this work is given in the article, "Development of A.T.C. in Germany," on page 858.

Holidays by Airway.—Dean & Dawson Limited, of Blandford Square, London, W.1, has published a handbook of Continental holidays and tours, using air transport. Inclusive charges are quoted covering air tickets and accommodation. In addition to holidays in the usual European centres, air travellers can go further afield by the services of Imperial Airways, Air France, and K.L.M., with the choice of travelling by sea in one direction. At the other end of the scale are air holidays at home by internal air lines.

The Spirit of Canada: A souvenir issued by the Canadian Pacific Railway in connection with the visit of the King and Queen to Canada.—This book is beautifully produced and lavishly illustrated in gold and in colours, but it is not on sale to the public. The whole is tastefully decorative and embodies in it real works of art. Apart from the natural colour photograph of Their Majesties in their crowns and robes of State, accompanying the loyal greetings to the King and Queen, the principal illustrations are prepared from water-colour sketches of the Dominion and Provincial legislative buildings, by the well-known Canadian artist, Mr. C. W. Simpson, R.C.A. Each illustrates a chapter devoted to its own Province, written by Canadian writers of mark. The foreword—also illustrated by Mr. Simpson—deals especially with the National War Memorial at Ottawa, and

is signed by Sir Edward Beatty, G.B.E., President and Chairman of the C.P.R. The coats of arms of the various Provinces not only adorn the appropriate chapters, but are also emblazoned in colour on the cover, which is in keeping with this striking production as a whole. The volume concludes with a map of the royal tour and a loose leaf timetable is also enclosed in each copy.

Farmhouse Holidays.—A guide to farmhouse accommodation for holidays in the country and by the sea has been published by the Farmhouse Holiday Bureau, 11-13, Southampton Row, London, W.C.1, at the price of sixpence (sevenpence post free). A foreword by Mr. S. P. B. Mais outlines the pleasures of this type of holiday, and the guide itself gives all necessary information as to where, and in many cases at what price, they can be enjoyed.

Veneers and Wall Panels.—A new brochure of Bakelite Limited, of London, S.W.7, is devoted to the uses of the firm's interior decorative materials, which combine a pleasing appearance with durability in service. The firm's veneers may be applied to doors and furniture, table tops, and, in many cases, to walls; the wall panels are used principally for the construction of partitioning and the complete surfacing of walls. There are many illustrations of actual Bakelite applications, and reproductions of a few of the colours, designs, and patterns available.

A New Timken Quarterly Magazine.—The first number has just appeared of a new four-monthly publication, *Timken Times*, produced by British Timken Limited, of Aston, Birmingham. The Chairman, Mr. M. B. M. Dewar, introduces the magazine with a personal message to Timken-users all over the world. A double page of illustrations gives an idea of the varied applications of Timken bearings—to locomotives, diesel engines, cranes, and so on. There is an interesting article describing the new 4-8-2 + 2-8-4 Beyer-Garratt locomotives for the South African Railways, to which the firm's axlebox roller-bearings have been fitted.

Gravity and Forcefeed Oilers.—Parker-Hale Limited, of Birmingham, has just issued a new brochure describing the firm's complete range of gravity and forcefeed oilers. The Valvespout oilers consist simply of a valve within a brass spout; they require only a twist to left or right to open or close. Their containers, finished in red, hold a good supply of oil—one pint in the largest model—and their construction, of deep drawn steel, makes them very durable. No leakage is possible as there is no open air inlet in the head; Valvespout oilers are, therefore, to be found in use where cleanliness is important—in the home, and the farm, in the ship's engine room and the power station. Copies of the brochure may be had from the offices of the firm at Whittall Street, Birmingham, 4.

THE SCRAP HEAP

Regarding the recent correspondence between Mr. Grasemann of the Southern Railway and Mr. Dandridge of the L.N.E.R., *Punch* has now stepped in, for our contemporary's new advertisement in the Underground cars reads:—

Cultivate a SUNNY disposition
Read *Punch* the SUNSHINE weekly.

* * *

A Roumanian boy, aged 15, arrived in Paris on the morning of August 30, having travelled by the Orient Express under a carriage, in which position he spent 36 hours without food or drink. On being arrested, he stated that he was going to see his uncle, a lace merchant, of Manchester. The youth, who was in an exhausted condition, was taken to the police station after restoratives had been administered.—*From "The Railway Gazette" of September 6, 1912.*

IMPOSSIBLE ERROR

* * *

There is nothing quite so formidable as a formidable old lady—and that discovery, I am told, was made the other day by a ticket collector on a train from London. He was engaged in collecting the ticket of a girl who had come from abroad and had a vast booklet full of paper tickets in which she tried in vain to find the right one. The ticket collector fidgeted impatiently while she searched through the bundle. "Perhaps you think I am standing here as an ornament?" he said at length. The formidable old lady who was in the compartment looked up from her book. "The girl is not blind," she announced austerely.—*From "The Yorkshire Post."*

* * *

During the construction of the London & Birmingham Railway the following story went the rounds and was recorded by Roscoe and Lecount in their book on the London & Birmingham Railway which was reviewed in *The Railway Magazine* in May, 1839:—

"A navigator engaged on one of the contracts, went into a village public-house, and made the inquiry 'Have you got any gin?' laying a great stress on the word *you*. The landlord quickly responded that he had plenty. 'Oh,' said the navigator, 'I am glad of that! I have been to the other public-house, and broke him of all he had. I wanted two gallons, and he had only got one; so I have had to come here for the other one.' The gallon was quickly measured out, and added to that which he had before in his bottle. He was then very coolly walking out of the shop; mine host, however, soon reminded him that there was a little process to go through which appeared to have escaped his recollection, namely, the paying for

the gin. To this the 'Navie' shrugged up his shoulders, and said he would pay on Saturday night. Boniface thought he would not be cheated in this way, and the gallon measure was quickly refilled again out of the 'Navie's' bottle, when he departed, looking very indignant at not being trusted till his pay-night. It only remains to say, that what he had originally in the bottle was a gallon of water—not a gallon of gin—and consequently his ingenuity was rewarded by his getting clear off with half-a-gallon of 'mine host's best cream of the valley,' in a state conveniently prepared for drinking."

* * *

In a recent article in the *Glasgow Herald*, Phyllis Jenkins has some amusing observations to make on the Paris Metro. All kinds of innovations are being introduced on this most ramified of underground systems. An up-to-date scheme of lighting has robbed the stations of their vault-like appearance, and the ghostly illuminants that have for so long guided Parisians in their subterranean gropings are a thing of the past. An "Où allez-vous"—"penny-in-the-slot"—if the term may be used in respect of the French variety—is now installed at the Madeleine station; you press a button for your required destination and are presented with a ticket giving precise directions of the route to follow. The gamins of the city delight in ringing the changes on this machine and go away rewarded with a mixed bag of free travel information. Bewhiskered and be-

medalled Frenchmen may be seen diverting themselves on another machine which, when the button for a particular station is pressed lights up the route thereto. The latest gadget is an automatic machine for issuing National Lottery tickets; you insert two coins—a one-franc and a ten-franc piece—and receive a tenth-part lottery ticket. Your gambling instincts are aroused by printed exhortations such as "Let the National Lottery pay your summer holiday" which adorn the machine.

GEORGE HUDSON'S SUNDAY TRAIN STILL RUNS

We are indebted to Major H. A. Watson, C.B.E., M.V.O., Chairman of the Association of Minor Railway Companies and formerly General Superintendent of the North Eastern Railway, for the following:—

When George Hudson, the "Railway King," was Chairman of the York, Newcastle & Berwick, and other railways, which in 1854 were amalgamated as the North Eastern Railway, he lived at Sessay Hall, near the station of that name about 18 miles north of York. On Sundays he used to attend the service in York Minster, travelling by the slow train from Newcastle to York, which is still running. During its existence there have been some minor changes in its timings, but it has always been the same train. Formerly it stopped at all stations from Newcastle to York. Now, as may be seen, on reference to Table 103 of the L.N.E.R. timetables, the train leaves Newcastle at 6.20, Gateshead 6.23, and runs non-stop to Durham. Thence it stops at nearly all stations, calling at Sessay at 9.5 and arriving at York at 9.32.



Popular Misconceptions—A Wagon-Lits train at speed

(Reproduced by permission of the proprietors of "Punch")

OVERSEAS RAILWAY AFFAIRS

(From our special correspondents)

SOUTH AFRICA

South African Airways

A Junkers aeroplane left Germiston on May 1 on a survey flight up the West Coast of Africa in the final step towards the institution of the regular 7,000-mile Southern African air service described in *THE RAILWAY GAZETTE* of December 12, 1937. The machine carried a fully-equipped technical staff who will collaborate in making the survey as comprehensive as possible. The establishment of a chain of emergency landing grounds and of radio stations along the entire 7,000-mile route will be one of the direct results of the flight. The route to be followed is from Johannesburg over the Kalahari to Windhoek, thence to the Cocosveld on the north-west border of South West Africa. From there the plane will proceed to Mossamedes and to Loanda, the capital of Angola. All arrangements for the circular service will probably be concluded within three or four months. When the administration completes its 7,000-mile circular Pan-African service it will be operating the longest and biggest route in the Southern hemisphere. Already its fleet is second only to the Imperial Airways in size in the British Empire. In comparison with Continental and American services, it is said to be the fifth largest in the world.

The personnel of the survey party is Mr. G. S. Leverton, Assistant Manager, South African Airways; Mr. K. S. P. Jones, First Officer; Mr. L. McKechnie, Freight Engineer; Mr. T. Drew, Refuelling Survey; Major J. T. D. Louw, Pilot and Flying Superintendent of the new service; Mr. J. K. Sedgwick, representing the Public Works Department; Dr. J. H. Ranch, Medical Officer of Health, Germiston; and Mr. Louis Kraft, Aviation Correspondent of the *Rand Daily Mail*.

Steel Coaches

The administration is investigating the question of steel as opposed to wooden coaches on the South African Railways, and experiments are now being conducted with a view to increasing the steel reinforcement of the ends of passenger coaches in use on main-line services. In South Africa the general policy for the past 30 years in coach construction has been to superimpose wooden bodies on steel underframes and in recent years the aim has been to increase the steel reinforcement of coaching stock. In its report, the Granet Commission expressed the opinion that the types and general condition of the administration's passenger vehicles were satisfactory, but recommended that the question of the use of steel-bodied vehicles should be reviewed. Following this recommenda-

tion, the position has been carefully watched and, without departing from the present standard design of main line saloons—the administration's technical officers hold the view that this is not warranted by the experience gained in South Africa, as well as in other parts of the world—action has been taken in the direction of strengthening passenger stock to resist crushing or telescoping in accidents.

CANADA

Railway Co-ordination and the Legislature

A Government report urging more active co-operation between the Canadian Pacific and Canadian National administrations was adopted by a special Railway Committee of the Senate on May 12. The report recommended wide pooling and other measures for economy, as well as the appointment of the Chairman of the Transport Board as arbitrator and to urge closer co-operation in every phase of working. An amendment recommending unified management of the two systems is expected to be moved at a meeting of the whole Senate.

UNITED STATES

New Pennsylvania Coaching Stock

The first of the 100 new coaches of modern design and equipment ordered from the Pennsylvania company's Altoona works has been delivered, and 40 are expected to be in service by the end of May; the remaining 60 will be delivered in June. The improvements incorporated in them include re-designed, re-decorated, and newly appointed interiors, shatter-proof glass, all-metal window sashes, complete non-draught air-conditioning, roller-bearing axleboxes, and tight-lock couplers.

The initial 50 cars will be for day services, each seating 84 passengers on plush-upholstered sponge-rubber seats with reversible backs. The remainder are for long-distance travel, including night journeys. They will have individual reclining seats. In all the cars special attention has been paid to shadowless, soft lighting.

SPAIN

Train Services Re-established

Although rail communication was re-established on the two main lines between Madrid and Barcelona and Madrid and Seville a very short time after the termination of the war, services have been limited to the daily *correo* and mail train, and to goods trains. The track has now been thoroughly inspected and the daily express services on both lines have

been reinstated; from May 5 these trains have been running normally and regularly, although there are still occasional delays owing to precautions along the line. The dining and sleeping cars on both routes, as before the war, are those of the International Sleeping Car Company, and the timings are also the same as those of the pre-war period, the Seville express leaving Madrid at 9.30 a.m. and arriving at 8 p.m.

Frontier Communications Restored at Port Bou

The railway bridge at Port Bou, which was dynamited by the Republican army in its retreat, has been temporarily repaired, and the first locomotive passed over it and through the international tunnel to Cerbère on May 11. The engine was decorated with the Spanish colours, and on its return journey, in addition to a train of empty wagons, hauled two mounted pieces of heavy artillery, which had been lying at the station in Cerbère since before the end of the war.

The Railway Problem

The Council of Ministers, at its meeting in Burgos on May 8, considered the railway problem, and approved the draft of a new law, establishing a provisional régime for the railway companies, the text of which will be published in due course. Decrees were also approved relating to the construction of locomotives and the repair of railway rolling stock.

INDIA

Government Finding on South Indian Railway Derailment

The Government of Madras, acting upon the report of the District Magistrates of Trichinopoly and Madura, has published its finding upon the accident to a passenger train at Ayyalur on the night of August 20-21, last, when 33 persons lost their lives, and 93 were injured. This finding states that no blame can be attached to the railway administration or the crew of the train or any other member of the railway staff, and that subsequent measures taken were prompt and effective. It further states that an important contributory cause of the accident was the substitution of a culvert for an Irish bridge on the District Board road, as this affected the data on the basis of which railway bridge No. 1,278 was designed.

It appears from the summary of the finding that this change in the road bridge caused the sudden flood on the night in question to breach the railway embankment, the train plunging into the breach so caused.

The finding observes that it was most unfortunate that the change in the road bridge was not reported to the railway authorities nor noticed by them, and it criticises nearby villagers, who were aware of the breach two hours before the train crashed into it,

for not reporting the fact to any railway servant. The Government reminds the public that it is expected to give prompt information to railway officers of any danger or damage to the railway.

Appeal of Deputy Controller Dinapore Upheld

Mr. S. W. Ralph, who—as announced in THE RAILWAY GAZETTE of January 20, 1939—had been convicted of negligence in failing to issue a caution order prior to the Bihta derailment, has now been acquitted on appeal to the High Court of Bihar.

Earnings of State Lines during 1938-39

The approximate gross earnings of all the State-owned railways during the year ended March 31, 1939, amounted to Rs. 94.01 crores, a decrease of Rs. 83,00,000 as compared with those in the previous fiscal year, but an increase of Rs. 1,97,00,000 over the total for 1936-37.

B.-N.R. Liner Specials and Long Engine Run

The Bengal-Nagpur Railway, in partnership with the Great Indian Peninsula Railway, is running a series of boat specials from Calcutta to Bombay to connect with the principal liners during the homeward passage season, and opportunity was taken in working the *Circassia* (Anchor Line) special to run one of the latest 4-6-0 type locomotives through from Howrah (Calcutta) to Nagpur—where the G.I.P.R. took over the train—a distance of 703 miles, without change of engine. The B.-N.R. route is the shortest between the great eastern and western cities of India, but it is much more heavily-graded than the competing East Indian route. The former has long 1 in 100 undulating grades, so that it provides a greater test of long engine runs than do many longer runs on other Indian lines.

ARGENTINA

Nine Months' Railway Earnings

The figures just issued by the National Railway Board giving the gross receipts of the State-owned and private railways for the first nine months (July 1-March 31) of the current financial year are the reverse of encouraging, as they indicate that with one or two exceptions, the situation of the private railways is likely to be little if any better on June 30 next than it was twelve months previously. Of the privately-owned lines, only the Santa Fé Provincial, Entre Rios, and Argentine North Eastern have improved their positions to any marked extent; on the other hand, all four broad-gauge lines continue to show decreases in their gross earnings, the worst off being the Central Argentine, with a decline of \$1,793,528 gold (5.16 per cent.), as compared with the corresponding period of 1937-38. The Buenos Ayres Great Southern Railway has a decrease of \$1,888,920

gold (4.50 per cent.), but the Buenos Ayres & Pacific and Western are practically at the same level as in 1937-38, the drop in revenue experienced by the former being \$547,800 gold (2.21 per cent.), and by the latter \$231,000 gold (1.80 per cent.). The appended table shows the returns for all the railways in gold pesos. The figures relating to the State-owned lines (marked with an asterisk) are for the first three months of 1939 only.

Railway	1937-38. \$ Gold	1938-39. \$ Gold	Inc. or dec., per cent.
B.A.G.S.	40,232,720	38,343,800	- 4.50
Central Argentine	34,772,276	32,978,748	- 5.16
B.A.W.	12,833,920	12,602,920	- 1.80
B.A. & P.	24,840,640	24,292,840	- 2.21
Province of Santa Fé	4,517,081	5,146,633	+ 11.39
Compañía General	4,086,720	3,616,800	- 1.50
*Córdoba Central	2,389,405	3,060,486	+ 12.81
B.A. Central	2,074,292	1,788,600	- 13.78
*Central North Argentine	5,414,177	5,549,278	+ 1.25
*San Antonio-Bariloche	489,001	402,077	- 17.78
*Comodoro Rivadavia	79,363	64,476	- 18.76
*Puerto Deseado	67,525	52,585	- 22.13
*Central of Chubut	65,542	71,091	+ 10.84
*Diamante to Curuzú-Cuatia	244,345	376,144	+ 15.39
Rosario-Puerto Belgrano	1,528,560	1,529,440	+ 0.10
Entre Rios	4,070,736	4,407,435	+ 10.82
Argentine North Eastern	2,565,803	2,702,241	+ 10.53
Bahía Blanca & N. Western	2,430,120	2,227,280	- 8.35

Extension of C.A.R. Air- conditioned Services

In view of the success achieved by the running between Buenos Aires and Córdoba of the Central Argentine Railway's first air-conditioned train El Cordobés (a description of which appeared in THE RAILWAY GAZETTE of June 10, 1938), the company has extended this system to its services through the northern provinces of Santiago del Estero and Tucumán, where dust and heat are frequently disagreeable factors, especially during the summer season. On April 1, a train named El Tucumano, of similar characteristics to El Cordobés, equipped with air-conditioning apparatus and semi-Pullman seats in the saloon coaches, was put into operation between Buenos Aires and Tucumán. The new service is at present a weekly one in each direction, leaving Buenos Aires every Monday at 7.00 a.m., and arriving at Tucumán at 11.15 p.m., the same day, thus covering the journey of some 720 miles in 16½ hr., as compared with the ordinary timing of 23 hr. There are intermediate stops at Rosario and three other points in each direction. The return journey is made on Wednesdays. Single tickets only are issued, the fare being \$60.00 paper (approximately equivalent to £2 18s. 11d.) each way, including supplement for reserved semi-Pullman seat.

State Railways Connections

At Tucumán the train connects with the State Railways to and from La Quiaca on the Bolivian frontier, and enables the journey to and from Buenos Aires and Salta and Jujuy to be made in 26 hr., instead of 33 hr. as formerly. The State line train leaves Tucumán on Mondays at 11.30 p.m., arriving at Salta on Tuesday at 9.00 a.m., Jujuy at 9.55 a.m., and La Quiaca at 8.16 p.m. The journey between Tucumán and

Salta and Jujuy is made in the sleeping coaches of the State Railways.

CHINA

Japanese Railway Engineers' Tasks

Japanese military engineers have speedily repaired the 28-km. line linking the river port of Shihhweiyao with the Tayeh iron mines. The line was reopened for traffic on April 3. In

many parts of China the Japanese are holding only a very narrow strip of country along each railway line, and the Chinese are carrying on as usual in all the surrounding territory. This is particularly so in the Province of Shansi, and the Japanese dare not venture out at night from their block houses and strong points protecting the railway.

VICTORIA

Excursion Car Converted into Ambulance

At Newport shops an excursion car has, in accordance with the requirements of the Defence Department, been converted into an ambulance. This type of car was selected because its conversion could be carried out most rapidly, and on account of its greater carrying capacity than an ordinary car; also its dimensions and weight enable it to be used on any broad gauge line.

The conversion involved the removal of all the seats and partitions and the sealing of the side doors near the ends. Gas lighting is retained and oil lamps added for use in case of emergency. A wash basin and gas heater have been installed. There are three tiers of beds on each side of the central gangway, the middle tier being hinged so that, when lowered from the horizontal position, the bunks form reclining seat backs for the lowest tier, which may then be used for sitting-up patients. The exterior is painted with moonstone grey synthetic lacquer, with two large red crosses on each side, and one, on the roof with a white background; the interior is all white. This car, which is illustrated on page 870, has been converted as a model for the building of similar cars in other States.

THE "SQUARE DEAL" REPORT

The recommendations of the Transport Advisory Council, issued on Friday last, include relaxation of statutory rates control in favour of extensive transport co-ordination

THE Minister of Transport on December 12, 1938, requested the Transport Advisory Council to give urgent consideration and make recommendations as to the proposals made by the railway companies in their memoranda of November 23 and December 8, that the existing statutory regulation of the charges for the conveyance of merchandise traffic by railway, together with the requirements attached thereto, including such matters as classification, publication, and undue preference, should be repealed. In transmitting the matter to the council, the Minister indicated that, as at present advised, he was inclined to the view that in existing circumstances there is, *prima facie*, a case for some material relaxation of existing statutory regulations, provided that due regard is paid to the ultimate objective of the co-ordination of all forms of transport. The council's report, made to the Minister of Transport on April 4, 1939, after four months of intensive inquiry, is divided into four parts, a summary of which is given below:—

PART 1

Introductory and Proceedings

The council, which is a very large body representative of transport, trading, and public interests, decided on December 15 to depute twenty of its members to form a committee to consider the railway companies' application. The report of this committee, which was considered and approved by the full council, makes clear at the outset that the railway companies do not desire to attack the road transport industry, but that they ask only for such freedom of action as will, in their opinion, enable them to compete for traffic with road and other transport services on a fair and equitable basis. Having regard to the views expressed previously by the council on the question of co-ordination, and the fact that the railway position necessitated immediate action, the committee arranged, concurrently with its investigation of the matter in the light of the documents and evidence submitted, that the railway representatives should enter into discussion with the trading and other transport interests to see what measure of agreement could be reached on the companies' proposals. Arising out of these discussions the railway companies drew up a further memorandum on January 11, 1939, in which they modified their original proposals for complete freedom to the extent that:—

I—They no longer proposed that they should be relieved of their obligations as to reasonable facilities, through rates or standard conditions of carriage;

II—They proposed the adoption of arrangements for regular periodical meetings between the various trading associations and the railway companies for the discussion of railway rates and charges, trade prices, and other matters of common interest;

III—They should be entitled to make such reasonable charges as they thought fit, with a right to traders (failing agreement under the machinery proposed in paragraph II), to appeal against the charge to a tribunal such as the Rates Tribunal, on the question of reasonableness.

This modification greatly facilitated the discussions with the various interests and a large measure of agreement was reached with the road transport, canal, dock and harbour, coasting liner, and coastwise tramp shipping

interests, and with the Traders' Co-ordinating Committee, the Mansion House Association on Transport, the Federation of British Industries, the British Iron and Steel Federation, and representatives of agriculture. The railway companies were unable, however, to reach agreement with the coal mining industry and the council is unable to recommend the adoption of the alternative proposals put forward by the Mining Association. The council expresses the hope, however, that the discussions will be resumed at a later date for the purpose of formulating any special machinery which may be desirable to meet the needs of that industry.

On the question of co-ordination, the report reiterates the council's view that an ordered system of transport under appropriate and correlated systems of control is essential in the interests of the community as a whole. It, therefore, proposes and emphasises at the outset that any Act which may be passed as the result of this report should be regarded as a temporary measure to meet an emergency, and should be limited in its duration to a period of not more than five years, or such shorter period as may be necessary to establish such a degree of co-ordination as will avoid unnecessary competition and overlapping of services.

PART 2

The Nature, Origin, and Purpose of Existing Statutory Regulations

Standard Charges

The Railways Act, 1921, introduced a new system under which standard charges were fixed by the Rates Tribunal at a level which, with efficient and economical working and management, was calculated (together with other sources of revenue) to yield the standard revenue. This standard revenue was defined by Statute as an annual net revenue equivalent to the aggregate net revenues in 1913 of the constituent companies, with certain specified allowances.

Exceptional Rates and Agreed Charges

The companies were allowed to quote exceptional rates below the standard, and to arrange agreed charges, subject in a very large measure to the prior sanction of, and, in many cases, to public inquiry by the Rates Tribunal, a requirement which they claim has prevented them from competing on a fair commercial basis with their competitors, to the detriment of their financial position.

Publication

Their statutory obligations as to publication of rates are concomitants of the present system of control, and as no similar obligations are imposed on road hauliers, the railways are at a disadvantage in competition.

Standard Revenue

The obligation upon the Rates Tribunal to adjust charges to enable the companies to secure their standard revenue has been effective only once and then only to a limited extent. The companies recognise that the abandonment of the present system of rate control also involves the abandonment of the standard revenue protection and they would be willing to accept this as part of an integral scheme for the establishment of a new and more flexible system of rate control.

Equality of Charge and Undue Preference

The possibility that the companies might be compelled by these obligations to reduce charges widely as the result of the reduction of a particular charge has proved a serious handicap to the railways, as road hauliers are not under any similar statutory obligation.

Disintegration

The companies are under an obligation to apportion exceptional rates into their component parts in order that traders may see how much is charged for each service. This has proved extremely burdensome in practice.

PART 3**The Relaxation of Existing Statutory Regulations and Proposals for the Protection of Trade and Industry****1. Agreements with Trading Interests**

The railways have reached a large measure of agreement with the trading and industrial interests as to the relaxations to be granted them, and the steps to be taken for the protection of trade and industry. The agreements differ in detail, but those entered into with the Traders' Co-ordinating Committee, supported by the Federation of British Industries and the Mansion House Association on Transport, and with the agricultural interests, are identical in their broad outline. The general principles on which they are founded are:—

I—The setting up of conferences to consider proposals by the railway companies for any general increase of existing charges;

II—Failing agreement on any such proposal at the appropriate conference, the giving of one month's notice by the railway company or companies concerned of their intention to bring the increase into force and the reference of the matter to a tribunal for determination;

III—The giving of notice by the railway companies of increases in individual charges with a right to the trader affected to take them to the appropriate conference and, if necessary, to the tribunal;

IV—The right of any trader or body of traders to appear before the tribunal to challenge any charge or to apply for reduced charges; and

V—The basis of the tribunal's determination in all cases to be the reasonableness of the proposed charge.

In the light of these agreements, and the representations submitted to it, the council has reached the conclusion that they form a suitable basis for the determination of railway freight charges during the interim period of five years, and the council recommends that effect should be given to them as shown below.

Relaxation of existing Statutory Regulations

On the understanding that (i) the companies do not seek relief from their statutory obligations as to reasonable facilities, through rates, and standard conditions of carriage, and (ii) that conferences will be set up on the lines of the agreements which have been reached, the council recommends that the following alterations should be made in the present statutory requirements:—

(a) CLASSIFICATION AND STANDARD CHARGES

These provisions should be repealed. The council notes, however, that the railway companies have indicated to the road transport interests that they would, of necessity, retain a voluntary system of classification in order to maintain their own commercial organisation on a sound footing.

(b) EXCEPTIONAL RATES AND AGREED CHARGES

These provisions should be repealed. From the point of view of trade and industry they will be adequately replaced by the proposed conferences and the recommendations as to the reasonableness of charges.

(c) PUBLICATION

On this point, which the council regards as one of major importance, the railway representatives have come to agreement with the National Farmers Union and the British Iron and Steel Federation, but have failed to do so with the Traders' Co-ordinating Committee on Transport and the Mansion House Association on Transport. The railway companies are prepared to accept any obligation with regard to publication of rates which is made applicable to all forms of transport. On the other hand they submit that it is inequitable to continue an obligation which is confined to the railway companies with the sole exception of canal carriage rates where canal companies act as statutory canal carriers. It is their intention to make their charges known on appropriate commercial lines to all interested parties, and in view of the agreements which they have reached with the railway representatives, the agricultural interests and the iron and steel industry are satisfied with the proposal of the railway companies and do not ask for further publication of facilities for themselves.

The Traders' Co-ordinating Committee on Transport and the Mansion House Association on Transport do not consider that the proposal of the railway companies would be satisfactory from their point of view. In the light of the recommendations made later in this report for the protection of traders by giving them a right of access to the Railway Rates Tribunal, they consider it essential in the interests of unorganised trades and individual traders that all charges in force for the time being (including agreed charges) should be published in such a form as to be readily accessible to all concerned.

The council has been unable to resolve this difference and in the circumstances is unable to submit a definite recommendation on the point.

(d) STANDARD REVENUE

The obligation upon the Railway Rates Tribunal so to adjust charges as to ensure a standard revenue will no longer be appropriate and should be repealed.

(e) EQUALITY OF CHARGE AND UNDUE PREFERENCE**(f) DISINTEGRATION**

The existing statutory provisions should be repealed.

(g) RIGHT OF TRADERS TO APPLY TO THE TRIBUNAL FOR NEW OR REDUCED RATES OR AGREED CHARGES

Although existing statutory provisions in this matter will no longer be appropriate, we consider the right of any trader or body of traders to appeal to the tribunal to reduce charges should be retained.

(h) THROUGH RATES AND STANDARD CONDITIONS OF CARRIAGE

No change in existing provisions is proposed.

(j) OTHER MATTERS**(i) Private sidings and special agreements affecting rates**

The railways do not propose any change in existing legislation affecting private siding agreements. In regard to special agreements as to rates, &c., continued under Section 34 of the Railways Act, 1921, they have assured the iron and steel industry that, as far as practicable, the relative position between persons entitled to these charges and other persons will be maintained and they are prepared to extend this assurance to traders generally.

(ii) GROUP RATES

The present statutory provisions should be repealed. Experience has shown, however, that the system of group rates is commercially desirable and the railways do not in general propose to alter it. The charges to be made in future, will of course, be subject to challenge as to "reasonableness."

(iii) RAILWAY FREIGHT REBATES SCHEME

The operation of this scheme may need review. If the council's proposals are accepted, it is doubted whether the system of rebates will remain the most suitable channel for passing on benefits of railway de-rating to traders, but industries affected do not ask that any change should be made.

(iv) NON-AMALGAMATED RAILWAYS AND LIGHT RAILWAYS

The statutory conditions should be modified similarly to those of the main lines.

2. Protection of Trade and Industry

The council approves the proposals for regular periodical meetings or conferences between the railways and trade and industry for the purpose of discussing matters of common interest, including complaints as to freight charges and proposals for increases in charges. The council does not recommend, nor was it asked to do so, that these conferences should be set up by Statute. The success of the conferences would depend in large measure on the spirit in which they were approached, and the council considers that it is advisable to leave the position as flexible as possible.

The council accordingly recommends:—

i.—If the companies propose any general increase of existing charges, and agreement cannot be reached at the appropriate conference or conferences, they shall give formal notice of their intention so to increase the charges and the matter shall stand referred to the Railway Rates Tribunal which, after giving both sides an opportunity of being heard, shall fix such charges as it considers reasonable.

ii.—If the companies propose any increase in individual charges, they shall give at least one month's notice to the traders concerned and may bring the increase into force at any time after the expiration of the notice. If the trader or body of traders concerned are unable to come to agreement with the companies, they may refer the matter to the appropriate conference and afterwards to the tribunal or, if they so desire, direct to the tribunal which shall fix such charges as it considers reasonable.

iii.—Any trader or body of traders shall have the right to approach the tribunal to reduce charges on the ground either that the charges or any of them are too high, or that the charges made to other traders with whom he is in competition are low in relation to those paid by him.

iv.—In determining whether or not a charge is reasonable the tribunal shall have regard (*inter alia*) to the following considerations:—

(a) Whether or not the charge is detrimental to the public interest.

(b) Variations in the value of currency.

(c) The cost of affording the service or services in respect of which the charge is made.

(d) The existence of any alternative or competitive transport facilities for the conveyance of the merchandise in respect of which the charge is made and the charges made for the carriage of like merchandise by such alternative means of transport.

(e) The effect of the charge on the financial position of the parties concerned, either generally or individually.

(f) The charge made to other traders for the carriage of like merchandise if it affects the trader concerned.

Wage Adjustments and the Rates Tribunal

The Rates Tribunal shall not be permitted to call in question the propriety of improved remuneration or conditions of employment awarded by mutual agreement or decision of the Railway Staff National Tribunal.

PART 4

Protection of Other Forms of Transport

General

The railway companies have reached general agreement with each of the other forms of transport as to the arrange-

ments to be made for their protection. The council approves the principle, but points out that the extent to which they will advance the aim of the co-ordination of all forms of transport must depend on the spirit in which they are implemented.

The Road Haulage Industry

Subject to the views expressed by the Traders' Coordinating Committee, as endorsed by the agricultural interests, and also to the views of the Scottish road transport interests, the council approves the general outline of the agreement which has been reached between the railways and the Liaison Committee on Road Transport Rates. It calls attention to the views expressed by the parties that its value lies more in the intentions which underlie it than in the actual operative clauses.

An integral part of the agreement is the undertaking by the railway companies that, save in exceptional circumstances, they will not, during the ensuing two years after they have obtained freedom from rate control, raise objection to applications for carriers' licences under the Road & Rail Traffic Act, 1933, of the following nature:—

(a) The renewal, without any alteration, of existing "A" or "B" licences;

(b) The granting to existing hauliers of "A" licences for additional vehicles;

(c) The granting to existing hauliers of additional "B" licences for vehicles whose operations for hire or reward are limited to a radius not exceeding 25 miles.

This is not, however, to debar the railway companies from giving to a Traffic Area Licensing Authority, on request, information concerning existing transport facilities which they provide, or from objecting to an application on the ground that the applicant has failed to comply with the conditions of his licence.

The fundamental basis of the agreement lies in the arrangements to be made between the railway companies and the road haulage interests for consultation on matters affecting both parties, including the free discussion of difficulties and the consideration of constructive measures. To this end a Central Consultative Committee (with power to appoint regional committees) is to be set up for the purpose, *inter alia*, of formulating the principles on which voluntary agreements can be entered into in regard to the charges to be made for the carriage of merchandise traffic by road and rail, either generally or in respect of particular commodities or particular routes or areas. The agreements will specify (i) the conditions under which the merchandise is to be carried; (ii) the rates or charges to be made for the carriage and for other services rendered; and (iii) the places between which these rates and conditions are to apply. The correlated system of rates envisaged will allow different charges to be made for each of the two forms of transport where such a course is found to be appropriate.

The council agrees with the view expressed by the Road Haulage Industry's Liaison Committee that, owing to the large number of operating units in the road haulage industry, adherence to voluntary agreements could not be relied upon and that observance of these agreements must be legally enforceable. The council, however, adds that, in order to accord with the procedure which the railways proposed in relation to traders generally, provision should be made for consultation with traders before these agreements are finally settled and referred to a road and railway rates tribunal for approval.

Canals

The council recommends that if the requirements with regard to classification, standard charges, publication, undue preference and disintegration of charges be repealed or amended in relation to the carriage of merchandise

traffic by railway, a corresponding relaxation should be allowed in connection with the charges made by statutory canal carriers.

Coastwise liner shipping

The relations between the railways and the coastwise liner companies are governed by voluntary rate agreements which have existed for many years and under which comprehensive schedules of rates have been evolved. The railways and the coastwise liner companies agree to continue the existing arrangements on a wider basis, and the council approves these proposals.

Coastwise tramp shipping

In their agreement with the railways the coastwise tramp shipping interests gave evidence of their desire to participate in a scheme of co-ordination, being assured by the railways that it was not the intention of the latter "to use any relief from their existing rates control to embark upon a policy of cut-throat competition with coastal shipping." This agreement contained a definite proposal that any legislation which might arise out of this report should contain provisions for the protection of the coastwise tramp shipping industry modelled on the lines of Section 39 of the Road and Rail Traffic Act, 1933, "enlarged to cover any or all rates and charges which are being made or

charged by the railways in competition with coastal carriers, or in respect of 'shorthauls' to and from the seaboard." The council endorses this proposal and recommends that it should be applied also to coastwise liner shipping.

Docks and harbours

The railway representatives agree that if the existing control of railway freight charges is to be relaxed it would be necessary to provide other safeguards for non-railway-owned docks in place of the existing safeguards. The two parties recommend that any independent dock authority, which alleges that a railway company is by its rates or otherwise prejudicing the undertaking of that authority, should have the right to make complaint to the Railway & Canal Commission. They also agree to set up voluntary machinery with the object of ensuring closer contact and co-ordination between the independent dock undertakings and the railways, so improving the efficiency of the transport system as a whole.

The council approves the terms of the agreement and recommends that, in the event of the present statutory control of railway freight charges being relaxed, the independent dock undertakings should be given the right of appeal to the Railway & Canal Commission.

Development of A.T.C. in Germany

NO other European railway administration has spent as much time and money on development and adoption of automatic train control apparatus as the German State Railway, some indication of which may be gained from articles in THE RAILWAY GAZETTE for September 7, 1934, May 1, 1936, and April 7, 1939. The first experiments with such equipment—plain cab signals being included for convenience in the term—were made in Germany in 1886; they continued at varying intervals, and with several types of devices, down to the war, but without permanent results. The war caused the subject to be set aside, but it was revived after public opinion had been stirred by one or two serious accidents, notably the collision at Herne, Westphalia, on January 13, 1925, in which 22 persons were killed and 85 injured; this accident led to the appointment of a commission to inquire into the safety of the German railways. Subsequently, work was practically continuous, and now a very large mileage of main line is equipped for regular service.

Herr Krauskopf, who has been closely associated with such work for a long time and has contributed numerous articles thereon to the technical press, has now published a book, *Die Entwicklung und der Stand der Zugbeeinflussung bei der Deutschen Reichsbahn* (The Development and Present Position of Automatic Train Control on the German State Railway) in which is reprinted a complete series of his articles to *Der Bahn-Ingenieur*. Having made a tour of investigation in America in 1932, the author is fully acquainted with the important installations made there, after the orders of the Interstate Commerce Commission. Train stops, properly so called, have found regular application in Germany only on the Berlin Elevated and Underground lines (where they were introduced before the war), the Berlin City and Local lines, and the Hamburg-Poppenbüttel line, where different designs are in service. Some 325 km. of double line in the Berlin division of the Reichsbahn, and 1,345 vehicles were equipped by 1934. It is understood that trials are being made with a magnetic device in place of the motor-driven train stops. Main-line devices can be classified under the heading of mechanical, electro-mechanical, and non-contact. Under the last title come devices actuated by

jets of steam or air, sound waves (below or above audible frequency), magnetic fields, light, and electro-magnetic induction, examples of all of which have been tried in Germany, where, as in other countries, inventors are constantly making proposals to the railways.

Herr Krauskopf describes at some length appliances tried in Germany before the war or soon after it, of which the most important were probably the Van Braam mechanical apparatus of Dutch invention, and magnetic cab signal of Stahmer. Today the Reichsbahn has finally eliminated all devices depending on contact between train and track equipment except, of course, in the case of simple train stops for local services. The earliest trials with non-contact equipment in Germany date from 1908, and applied the principles of wireless. High-frequency apparatus, employing resonant circuits, the basis of nearly all subsequent equipment except the optical system, was introduced experimentally in 1920, at first as a mere location warning signal to the driver, and persevered with up to 1929. It was in due course made to work with the line-side distant signals. From 1926 to 1928, however, a d.c. inductive system was tried, but was found inadequate.

In 1925 the Reichsbahn authorities issued an invitation to the principal firms to make trial A.T.C. installations, fulfilling six specified requirements by the following year. In 1927 extensive trials of the first resonant inductive apparatus, designed by a leading wireless firm, were made on the Berlin-Halle line. In 1928-1929 the official requirements were revised, and eventually the principles of the standard equipment, as it eventually became, were elaborated. Herr Krauskopf gives a detailed account of these developments, with full descriptions of the component parts of the apparatus, from the original one-frequency system to the three-frequency type in general use. He refers also to the latest five-frequency design, which has been developed by reason of the increasing use of railcars, the desire to incorporate continuous speed control, and to provide protection against failure to observe permanent way restrictions or to close level crossing barriers. The author gives also a short but sufficient description of the optical A.T.C. system. His work ranks in the forefront of the signalling literature of recent years.

THE FIRST GEORGE STEPHENSON LOCOMOTIVE ?

Mr. R. N. Appleby-Miller has recently published an illustration of considerable historical interest which he discovered some years ago, and we reproduce here his notes on it

ALTHOUGH within recent years careful and skilled attention has been paid to the surviving documents relating to the introduction of the steam locomotive, there is always the possibility of new facts coming to light when early manuscripts in private hands are examined. No one appreciated this better than the late

"To this description add the following from Mr. Warren's 'A Century of Locomotive Building':—

Stephenson followed Blenkinsop (Murray) in placing the two cylinders axially along the centre line of the boiler, but he adopted Hedley's method of drive through gears, and his first engine was rather a compromise between the two earlier designs than an improvement on either.

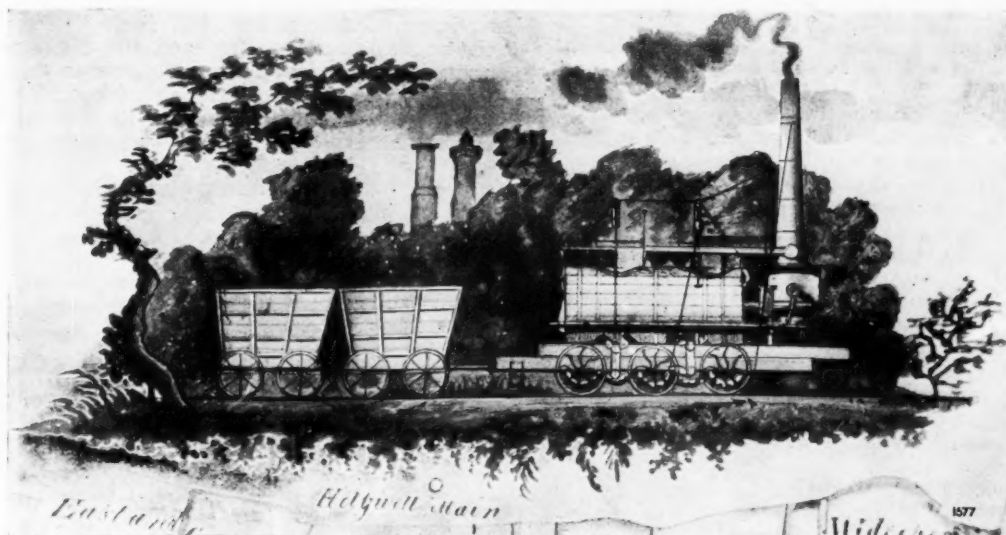


Illustration of an early locomotive, probably built by George Stephenson, from a manuscript of 1816

Mr. J. G. H. Warren, the author of that monumental work "A Century of Locomotive Building" by Robert Stephenson & Co., who, although he had sought diligently for every scrap of authentic information before publishing his book in 1923, nevertheless continued his researches and subsequently uncovered further data. Recently another illustration has come to light through the activities of Mr. R. N. Appleby-Miller, and this has now been reproduced by *The Edgar Allen News*, to the Editor of which we are indebted for permission to publish it here. Mr. Appleby-Miller contributed to that paper the following notes concerning his discovery, and through his kindness we reproduce them.

"Seven years ago I had the good fortune to discover the drawing of what is, without a doubt, an early locomotive experiment made by George Stephenson. Whether or not it portrays his first or possibly his second locomotive, the late Mr. J. G. H. Warren, the official historian of Robert Stephenson & Co. Ltd., would not venture to say—although he was inclined to lean towards its being the first engine remounted upon six wheels instead of its original four only. The details of Stephenson's first engine are meagre. They appear in the 1825 edition of Nicholas Wood's 'Treatise on Rail Roads':—

In the early part of 1814 an engine was constructed at Killingworth Colliery by Mr. George Stephenson, and on July 25, 1814, was tried upon that railroad. This engine had two cylinders, each 8 in. diameter, and 2 ft. stroke, the boiler was circular, 8 ft. long, and 34 in. diameter; the tube 20 in. in diameter passing through the boiler.

"From these two short accounts it is possible to conjecture exactly what the engine looked like, and when my 'find' is held up to view one no longer has any doubts. This illustration was a drawing on the top of a large 'Plan of the coal district on the Rivers Tyne and Wear,' in the office of Mr. Cochran-Carr, colliery owner of Newcastle-upon-Tyne, where the historical significance of the drawing had remained unrecognised. The map is an original projection, executed by an early 19th century draughtsman, who combined great skill as a surveyor with marked merit as an artist. On the map is carefully shown the position of all the working pits, as well as the waggons, water-courses, coal staiths, inclined planes, &c., in 1815/16. The engine and its coal waggons are introduced into a delightful little sketch of a tree-embowered colliery. The engine was delineated by a draughtsman who was thoroughly conversant with the use of the compass and drawpen. The 'blotting in' of the trees, the colliery chimney, the mine ventilating cowl, the locomotive and its waggons, plus the whole surroundings, &c., with colour, may, too, be the work of the same hand; but it is certain that the work is good, and patently by one sympathetically inclined towards a decorative treatment of his subject.

"A close examination of the sketch shows further that the drawing is probably unique for its period, as it represents one of the earliest experiments in steam locomotion made by George Stephenson: the experiments whereby he adopted the driving arrangements of Trevithick-Murray

cum Blenkinsop-Hedley, to a smooth wheeled adhesion engine. It is interesting to see how closely Wood's account in his first edition of 'Rail roads' fits in with the locomotive's driving gear as shown in the engine illustrated in this plan. True, Wood only shows a drive on four wheels and the illustration shown shows six wheels, still we do know that Stephenson had an engine with six driving wheels. Wood says:—

Fig. III, Plate IV, will show the manner by which the power of the engine was communicated to the wheels, and the locomotion effected. A-A are the wheels of the carriage supporting the engine; B-B the frame of the carriage on which the boiler is fixed and *ad* and *hc* are the connecting rods transferring the motion from the piston to the crank, *de* and *bf* are the cranks which turn the two small cog-wheels *ef*, which in turn cause the driving wheel cogs to move round. The cog-wheel keeps the connecting rods always in the correct position one with the other. This engine was first tried upon the Killingworth Colliery Railroad on July 27, 1814, upon a piece of road with the edge-rail, ascending about 1 yard in 450, to draw after it, exclusive of its own weight, eight loaded carriages weighing altogether about 30 tons, at the rate of 4 miles an hour; and, after that time, continued regularly at work.

"Wood states that when the engine had been at work a short time it was found that sufficient adhesion existed between the locomotive wheels and the edged rail to give all the pull that was needed. Stephenson, however, had first tried an experiment which for all practical purposes made his engine a six-wheeled locomotive. Grooved sheaves were fixed upon the hinder travelling wheels of the engine, and similar grooved sheaves upon the fore-wheels of the convoy carriage containing coals and water, with an endless chain working over each. The desirability of carrying the engine upon six wheels in order to reduce the axle loads and the risks of breaking the cast iron rails then used, appears to have been realised early on by Stephenson just as it was by Hedley; only in Stephenson's case he mounted his engine upon six wheels as against Hedley's eight. Farey, the well-known writer on the steam engine, after describing the Murray-Blenkinsop locomotive, wrote in 1815, in an article "Steam engine," published in Rees's 'Cyclopædia' (1819):—

A similar machine has been tried at Newcastle, but they have attempted to employ the wheels alone, without cogs upon the rails. To relieve the weight upon the rails, and obtain a greater reaction to advance the carriage, they applied six wheels for the carriage to run upon; and to make the bearing equal upon all six, the two middle wheels were applied to the piston of a small cylinder beneath the carriage, into which steam was admitted, and by its pressure bore up a portion of the weight of the engine; and accommodated itself to any inequalities of the railway.

"Now Farey's description, so far as it goes, is in general accordance with the sketch the writer brought to light, and the use of steam 'springs,' which were the subject of a patent by Stephenson and Losh in 1816, seems conclusively to show that the engine he was describing was by Stephenson. The only evidence hitherto available to suggest that Stephenson may have built a second geared locomotive, has been Farey's, but supported as it is by the evidence of the recently-discovered sketch, we must consider this probability or its alternatives, if we assume that the sketch was made from 'life.' The four-wheeled engine, according to Wood's account, was tried out in July, 1814, but Wood's account was not published till eleven years later. In spite of this delay, it seems to be too circumstantial to allow reasonable doubts as to its correctness, and to suppose that this first engine was on six wheels. If it had been so, the experimental coupling to the tender wheels would not have been necessary. We are left, then, with alternatives: either, that a second geared engine was built, but on six wheels; or that the first geared engine was re-built on six wheels.

"Against the first theory is the fact that before March, 1815, Stephenson and Dodds had produced the improved design which they then patented, with a direct drive from the piston crossheads—or beams—on to the driving wheels

and coupling rods or chains. All gears had thus been eliminated, an important improvement to which Wood calls special attention. Stephenson would hardly have built another geared engine after March, 1815, and it seems equally unlikely that a second engine was built between July, 1814, and March, 1815. We are left, therefore, with the alternative, *i.e.*, that the first engine was rebuilt as a geared engine on six wheels in order to reduce the axle loads, and that this was the experimental engine described by Farey and shown by the newly discovered sketch.

"The bed-plate, or engine frame, rather suggests timbers originally cut for a four-wheeled engine instead of for a six-wheeler. The builder seems to have got his extra length, without any unduly increased weight beyond the wheel-base, by placing the double timbers in echelon formation, *i.e.*, a short length of single timber projecting beyond the other both fore and aft, the upper in one instance projects forward and the lower in the other aft. This provided a platform for examining the pump and feedwater tank and a toothplate behind, thus increasing the length of the locomotive considerably beyond that then usual. Other considerable alterations would be required in the relative position of the cylinders, and to the gears, of which the intermediate wheels are considerably larger than shown by Wood for the first engine. The pattern of the driving and coupled wheels, too, is different, having curved instead of straight spokes, and these give some clue to the date and support the theory of a rebuild. The writer has examined a number of illustrations of coal waggons, all prior to 1816, and has not found any with wheels having curved spokes. During the year 1816, however, Messrs. Losh & Stephenson took out a patent for an improved travelling engine, rails, and wheels among which is a pattern with curved spokes regarding which the patent specification reads:—

Fig. 12 is a view of the cast-iron wheel, with the malleable tire. This wheel is made with curved (wrought iron) spokes, as shown at *aaaa* (&c.) in the drawing with a slit or aperture in the rim, shown at *b* into which a key is inserted. The reason of this is, that on the application of the hot tire, the cast metal expands unequally, and the rim is liable to be cracked, and the arms ("spokes") drawn off, unless the first is previously shut or opened, and the latter curved, which allows them to accommodate themselves to the increased diameter of the wheel, by the formation of the wheel the tire might be forced on when cold and keyed up afterwards.

"From this we may conclude that the curved spoke was invented and experimented with between February, 1815, when the patent drawing shows straight spokes, and 1816. It does not follow that such wheels were not in use before being patented.

"Whether or not the locomotive now illustrated was Stephenson's second new engine or the first one rebuilt, it is certainly a remarkable link in the development of the locomotive, on which little but fragmentary information has hitherto been given. The sketch, however, confirms such information on several important features of the design. It shows the exhaust steam taken direct into the chimney, an arrangement which Robert Stephenson, in his account of his father's invention, published by Smiles, states was 'introduced not many weeks after the first travelling engine was placed on the Killingworth line.' The sketch shows, too, a feed-water heater round the chimney, which Lecount, in his 'Practical Treatise on Railways,' states was used on Stephenson's first—or early—locomotive. Other features characteristic of George Stephenson's practice are the piston crosshead guides. These are of the type shown on an original drawing now in the Science Museum, believed to have been by Stephenson himself. Guides of the type shown, which were entirely different from those on the Murray-Blenkinsop engine, are still to be seen on the old Killingworth locomotive on the platform of Newcastle Central station."

NEW UNION LIMITED AND UNION EXPRESS TRAINS FOR SOUTH AFRICA

*Luxury air-conditioned steel coaches being constructed
for the South African Railways & Harbours*

TWO trains comprised of new air-conditioned steel coaches will shortly be placed in service on the South African Railways, and will provide luxury travel between Johannesburg and Cape Town and *vice versa* on an improved timing. The journey of 966 miles from Cape Town to Johannesburg is at present completed in 27 hr., and in the opposite direction in 26 hr., including a number of stops, but under the improved schedule with the new trains these timings will be somewhat reduced. The train diagram drawings reproduced on another page, and indicated as scheme A, and scheme B, respectively represent alternative train assemblies planned to meet varying traffic requirements as determined by the number of passengers to be accommodated. The capacity of the train when made up in accordance with scheme A is 110, and scheme B 106 passengers. The adjustment is made by including more of the "A" cars, each sleeping 15 passengers, when more accommodation is required or "B" cars, each sleeping 11 persons, when the demand for berths is less.

The trains which are nearing completion at the works of Metropolitan-Cammell Carriage and Wagon Co., Ltd., Saltley, Birmingham, are made up from the following cars: 12 day and sleeping cars in six pairs; 2 lounge cars; 2 dining cars; 2 kitchen and staff cars; and 1 segregation van. The main dimensions of the vehicles are:—

	Sleeping cars		Other cars	
	ft.	in.	ft.	in.
Length over buffers	67	8	65	8
Length over body	65	5 $\frac{3}{16}$	63	5 $\frac{3}{16}$
Width over waist panels	9	3 $\frac{3}{16}$	9	3 $\frac{3}{16}$
Centres of bogies	47	6	47	6
Bogie wheelbase	6	6	6	6

The vehicles have been built to the specifications of the administration, and no effort has been spared in making them as comfortable and luxurious as possible. All of the cars are fully air-conditioned; the day and sleeping cars, kitchen cars and segregation van all have 3½-ton air conditioning equipment, while the lounge and dining cars are fitted with 5½-ton equipment. The contractor has kept in mind the necessity of providing the maximum of accessibility to the air-conditioning equipment to enable maintenance to be carried out without difficulty, and has achieved considerable success in this direction.

Body Construction and Arrangement

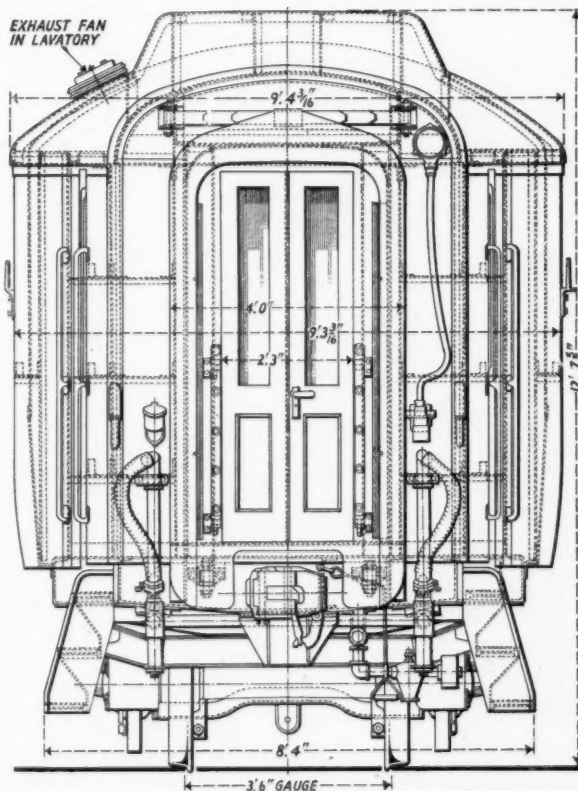
The bodies are constructed of steel sections and panels, riveted or welded together to give maximum strength, and the exterior of the body sides presents clean unbroken lines due to the absence of mouldings and visible panel joints. The roof structure is not unlike the monitor type roof, the humped centre portion being designed to carry the main air duct. The floors are of dovetailed galvanised steel sheeting, to which is cemented a layer of slab cork, this in turn being covered by ¼-in. thick lino. The side entrance doors open into an enclosed vestibule and gangways allow of passage from car to car. A straight-through corridor of ample width runs between the two entrance vestibules. The underframes are constructed of rolled steel sections riveted together, to which in turn the body sides are riveted, the combined structure being of sufficient strength to obviate the use of trussing and to provide

maximum space between the bogies to carry air-conditioning equipment and water tanks.

The bogies are built to the design of the administration and are constructed of rolled steel sections, riveted together. A feature of the design is the provision made to carry the generator gearbox. A cantilever is built out past the headstock and supports the gearbox, which is belt-driven from the axle pulley. The gearbox is coupled to the generator by means of a cardan propeller shaft.

Interior Arrangements of Car Type "A"

The passenger accommodation provides sleeping berths for 15 persons, and there are single, double and three berth compartments. The interior finish of the compartments is carried out in veneered timbers which include Sapeli mahogany, Honduras mahogany, and Zebrano, all French polished. The seats and seat backs are covered with blue hide. Below waist height the body side and cross partitions are covered with scratch-proof Rexine suitably mounted to give an upholstered effect. Above waist height there is veneered panelling, and on the cross partition, one large Alpax luggage rack is provided in all compartments. In the full compartments there is a fixed wash basin with hot and cold water, covered by an occasional table which is itself covered by a large folding table, which can be hinged up out of the way when not required. The wash basin in the *coupés* is of the folding type and housed in a corner



End view of car with overall dimensions

cabinet. A point of interest is that all mirrors and windows are of armour plate glass. The ceilings are of Limpet panels covered with ivory-coloured Rexine. The floor is partly covered by a carpet, and hassocks, trimmed in the same materials as the seats and carpet, are provided.

The lighting comprises a side and centre roof fitting independently controlled, and two berth lights for each berth. A bell installation to be described later enables the passenger to call the attendant. The lavatory is finished in Rexine and is provided with a wash bowl, mirror and glass shelf. The floor is covered with rubber, and the commode is of the foot flushing type. The ceiling is fitted with hinged traps to give access to the air unit, which is mounted immediately above. The main panel which controls the air-conditioning and lighting is enclosed in a cupboard at the lavatory end of the corridor, and complete accessibility is obtained at the front or rear by means of hinged doors.

The corridor is finished in veneered timbers and, below the waist on the body side, in Rexine. Guard rails are provided across each corridor window and a toilet indicator is visible from each compartment door. The vestibule furthest from the lavatory is provided with spacious cupboards to carry linen and bedding, and a broom cupboard contains the pump necessary for raising water to the upper tanks.

Interior Arrangement of Car Type "B"

The passenger accommodation provides sleeping berths for 11 persons, and the attendants' compartment has berths for two of the train staff. The individual compartments are similar in finish to the type "A" compartments. A boiler room containing boiler, coal bunker, hot water cistern, pump and hopper for use of the attendants is arranged immediately next to the staff compartment. Bedding and linen cupboards open on to the corridor, and in the non-toilet vestibule entrance is made to the shower room. A coved rubber floor, shower tray, non-splash curtains and modern shower equipment should make this room attractive to the traveller.

Details of Air-Conditioning

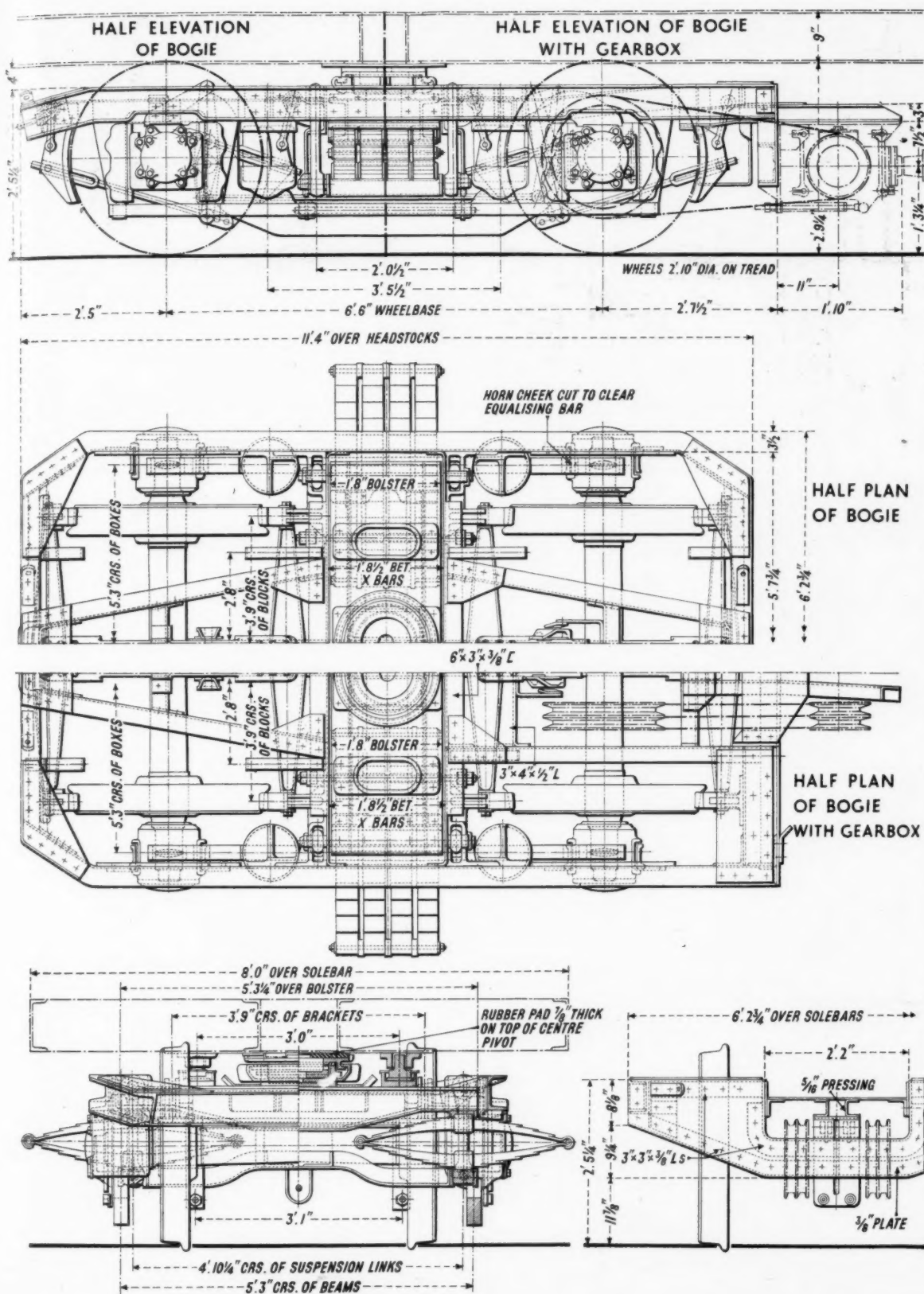
The air-conditioning in these carriages is carried out on Stone's system by equipment that enables the air to be cooled in summer and warmed in winter. The unit, which contains the necessary cooling coils and electrical heater elements, is situated in the clerestory roofing over the entrance vestibule. The only evidence of its presence is afforded by a grille in the vestibule ceiling. This is the entrance for all fresh air admitted to the carriage and the extent of the opening is controlled by a hinged flap or damper. A fixed stop prevents the opening from being completely closed, and ensures that the air introduced into the carriage shall be at least 25 per cent. new and clean. Openings in excess of the minimum can be obtained by inserting a key to move the damper, and an indication of the damper setting is given by viewing a rotating dial through a small aperture. Access of fresh air to the vestibule is through louvres in the car exit door.

Before entering the conditioning elements the fresh air must pass through a Visco filter and mix with other air that is drawn from the car for recirculation and reconditioning. This second supply of air is drawn from the corridor through a grille in the ceiling and, like the fresh air, it must pass through a filter. Leaving the conditioner the air passes along the clerestory and finds its way into the several compartments through openings provided above the doors which give access to the corridor. These openings must be adjusted in size until the compartments receive the air that is due to them. Single-berth compartments receive about 150 cu. ft. per min., and two-berth

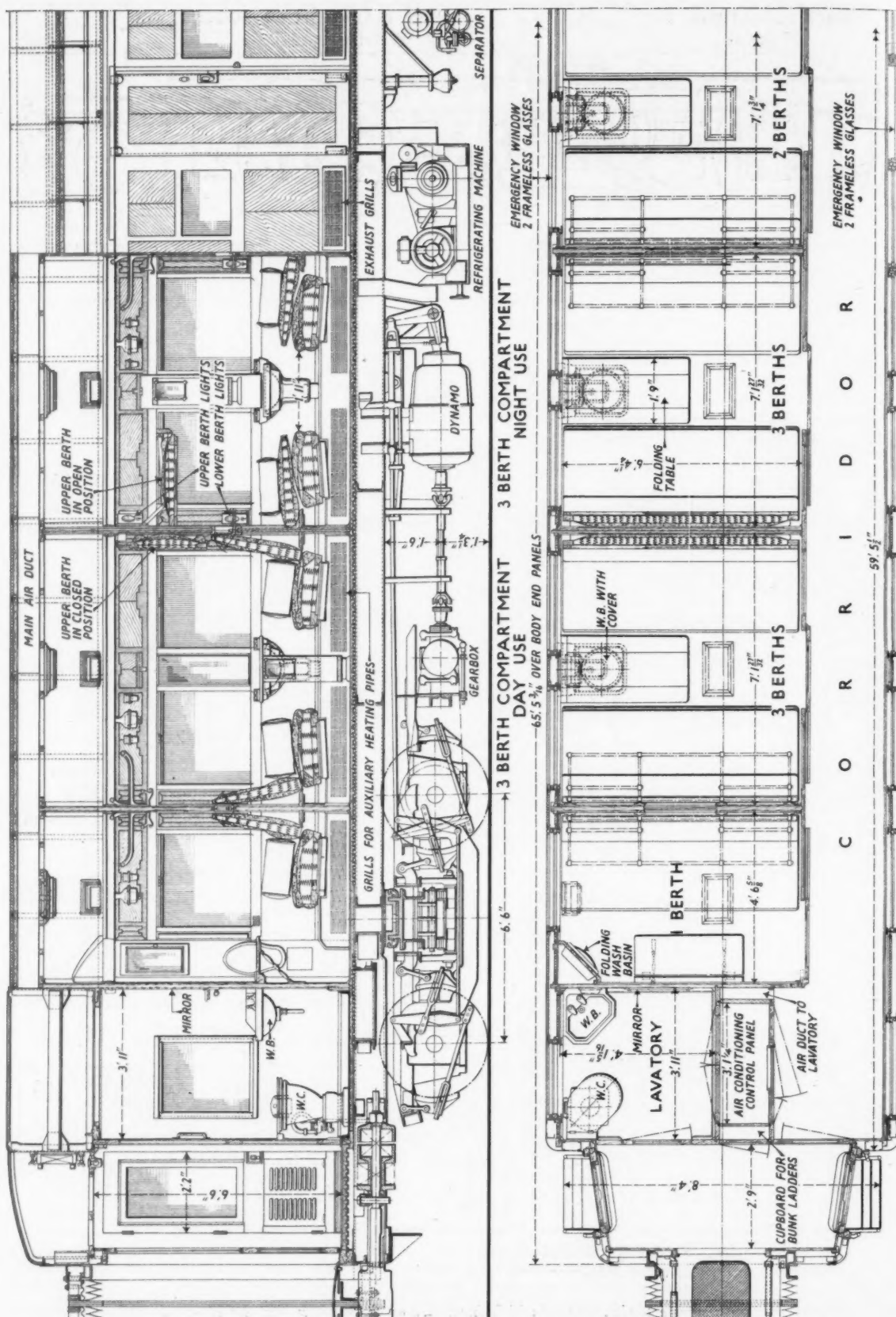
compartments 200 cu. ft. per min. Once the correct distribution has been secured the openings are left alone, no control being provided for manipulation either by passengers or attendants. Air leaves the compartments by louvres near the floor, communicating with the corridor. It passes to the vestibule end where a proportion is drawn through the ceiling for recirculation. The surplus air is drawn by a 9-in. exhaustor fan through a grille at the side of the corridor alongside the equipment control panel. In the centre of this grille is the dial of a thermometer which registers the outside air temperature. Guided by the indications of this the attendant selects the appropriate pointer settings on the control panel.

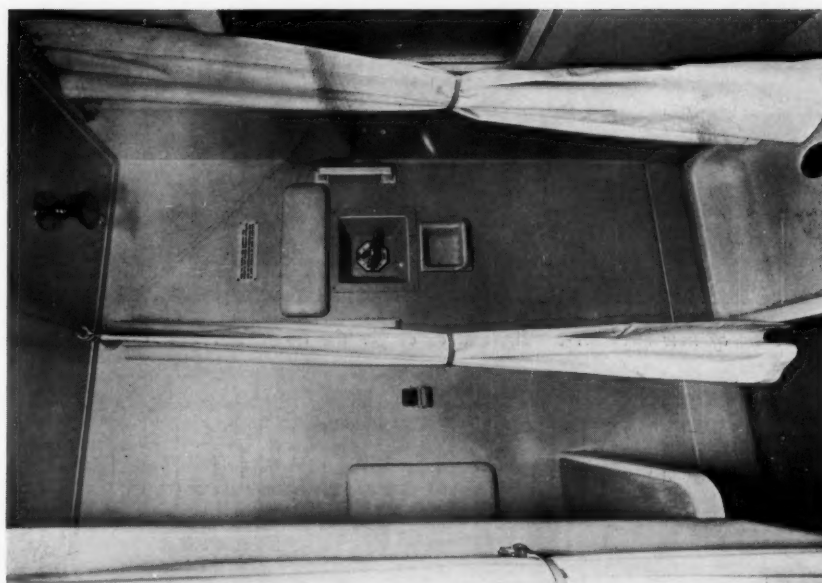
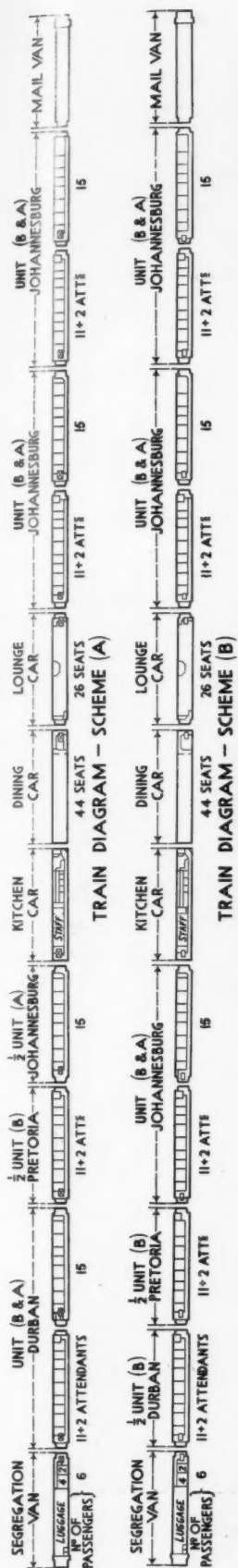
Before describing the air-conditioning equipment in detail mention should be made of those special features in the construction of the car necessitated by the use of air-conditioning. First, the compartment ceilings are detachable from a line down the centre to within a few inches of the door giving access to the corridor. This enables the clerestory or air duct to be thoroughly cleaned out at intervals. Early experience has shown that deposits of dirt may occur in time and give rise to a stale or musty smell. The junction between the fixed and detachable parts of the ceiling immediately over the door leaves what is in effect a concealed slit for the entry of the conditioned air. An upwardly projecting lip on the fixed part serves to hide this slit and also to deflect the air upwards and make it sweep round the arch of the ceiling. The slit is covered with a wire net of small mesh to prevent the ingress of insects. The body of the car is heat-insulated to minimise the refrigeration necessary in summer and the heating necessary in winter. Roof spaces are filled with Alfol aluminium foil and the exterior is finished in bright aluminium paint to reduce radiation and absorption. The outer metal panels of the car are covered with a layer of heat-insulating material (sprayed asbestos) and the floors are finished with cork. The windows are double, with a sealed air space between.

The air-conditioner in the clerestory space above the vestibule comprises a finned tube cooling element, an electric resistance heater, and a fan for impelling the air through these. Freon from the compressor is admitted to the finned tube element through three expansion valves which operate in parallel to regulate the flow through the three sections into which the element is divided. Near to the air-conditioning unit, in the stream of air coming in for recirculation from the corridor, are the nine thermostatically-operated switches which give automatic control under all conditions. Three of these are for use when the compressor is in operation, three are for controlling the electric heater elements, and the remaining three are for controlling the steam heaters. The latter supplement the heating effect of the electric elements in the air-conditioning unit during very cold weather. Each compartment is provided with one of these steam heaters, and it is located between the window and the floor on the side remote from the corridor. The steam heating equipment was supplied by Gresham & Craven Limited. When the car attendant, guided by the thermometer showing outside conditions, selects the appropriate position for the control switches, one of the thermostats in the air-conditioner is immediately brought into use. If in summer the air coming in for recirculation is too cool, the thermostat causes the compressor to be stopped and it permits the compressor to be restarted only when the temperature of the incoming air indicates that this is desirable. The temperature differential is a small one ($\frac{1}{2}^{\circ}$ F.) and the three thermostats enable the car temperature to be kept within close limits at any one of three temperatures according to requirements. Control over the electric and steam heaters is similarly effected by switching them on for longer or shorter intervals, and



General details of the two separate bogies, one of which incorporates the gearbox for the air-conditioning equipment

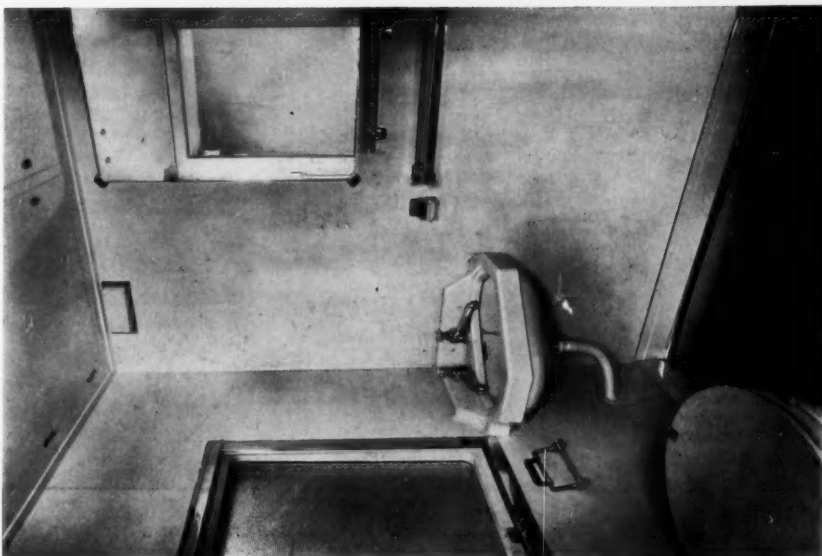




Shower bath compartment

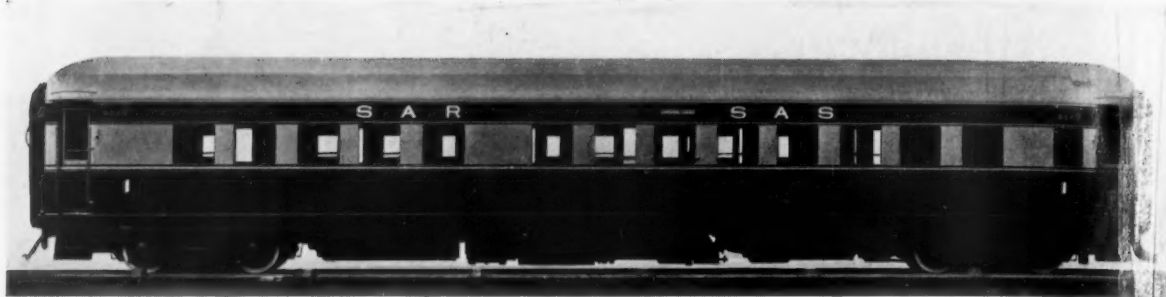


Control panel for air-conditioning equipment

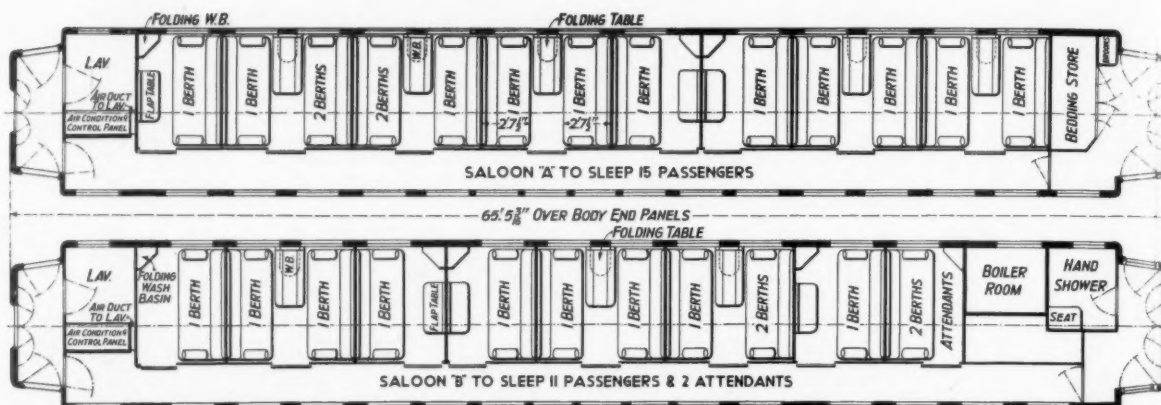


Lavatory compartment

SOME INTERIOR VIEWS IN THE NEW COACHES



Exterior view of new steel air-conditioned coach for the South African Railways & Harbours Administration



Plan views showing arrangement of berths in "A" and "B" type coaches



Interior of three-berth compartment showing arrangement of sleeping berths

here again the choice is given in each case of three temperatures.

After evaporation in the air-conditioner cooling coils, the Freon passes, at about 40-lb. per sq. in., into the compressor, where its pressure is raised to several times this amount and its temperature is somewhat in excess of the outside air temperature. It is delivered in this condition to the condenser which, like the air-conditioner cooling element, is a finned tube arrangement with motor-driven fans for drawing air through it. The condenser is placed under the car so that the fans produce an air current at right angles to the motion of the train and quite independent of it. A receiver is provided for storing the condensed or liquid Freon and, capable of being introduced into the circuit between the compressor and condenser when necessary, is a moisture extracting device containing alumina. Accessibly situated near the condenser is a box containing gauges to show the high and low pressures in the Freon circuit. In the same box is a pressurestat for tripping a relay and shutting down the compressor whenever an excessive pressure results from its operation—as might happen for example if anything went wrong with the condenser cooling fans. Any delay in starting the fans in the air-conditioning unit may cause the evaporation coils to freeze up and for this reason the starting-up sequence begins with these fans. Afterwards the compressor and the condenser fans are simultaneously brought into action.

The electric storage battery on the new carriages is of the alkaline type standard on the S.A.R., but much larger than usual in order to maintain the air-conditioning services during stops at stations. The charging dynamo is a large capacity machine, driven through a gearbox and flexible propeller shaft by vee-belts from one of the bogie axles. The gearbox is attached to the bogie with springs below to maintain the belts in tension. The dynamo is attached to the underframe of the carriage, and the propeller shaft, which is telescopic and provided with two Hooke type universal joints, accommodates the swivelling of bogie on curves. The compressor is driven by vee-belts from a shaft normally rotated by a d.c. motor. On this shaft, however, is an a.c. motor for use during long halts at stations where a.c. is available. When the a.c.

motor is used the d.c. motor functions as a dynamo and makes good the energy taken from the battery by the various fan motors. A swivelling plug socket is conveniently located outside the carriage to take the a.c. supply connection. The swivelling feature ensures that the plug will pull out without injury if the train should be started before anyone remembers to remove it by hand. The a.c. motor is wound for 380-v. three phase supply and is provided with a Star-delta starter.

The electrical control apparatus is mounted on two panels which are accessible from both sides. The smaller panel, which carries the control knobs, pilot lights, &c., is mounted on hinges like a door so that it can be swung aside to reveal the front of the larger panel and also its own back. Because the voltage of the alkaline type of battery is variable, the lights are supplied through a carbon pile resistance and in this way are kept at constant brightness. The resistance varies automatically in accordance with the battery voltage and the lighting load. Outside each compartment is a green signal lamp which the passenger can light to attract the attention of the attendant by operating a push-button. The same button rings a bell so long as it is pushed. Release of the button stops the bell but leaves the lamp illuminated. A button on the corridor side of the compartment wall is pushed by the attendant to extinguish the light. The electrical busbars of the several carriages comprising a train can be interconnected so that in the event of failure of one battery or dynamo the air-conditioning and lighting services can be maintained by the equipment from an adjoining carriage.

The exterior finish of the cars is of a most attractive kind, the lower panelling, i.e., below the waist panel, being painted deep blue, and grey between the waist panel and the cornice mould. The roof is finished in aluminium, and the lining of the sides and the lettering is carried out in gold leaf. Dockers Syntholux synthetic paint was used for these coaches. We were afforded an opportunity of inspecting the vehicles during their construction in the builder's works at Saltley, Birmingham. They impressed us as being of admirable design throughout, whilst the workmanship and finish in every detail was, as might be expected, of the highest class.

Perspective drawing of the modern hotel to be built by the Great Western Railway at Snow Hill station, Birmingham. The building is to be a six-floored, steel-framed structure faced with natural Portland stone, and will stand on the site at present occupied by the divisional offices and station restaurant. A front elevation and description of the hotel appeared in our March 3 issue



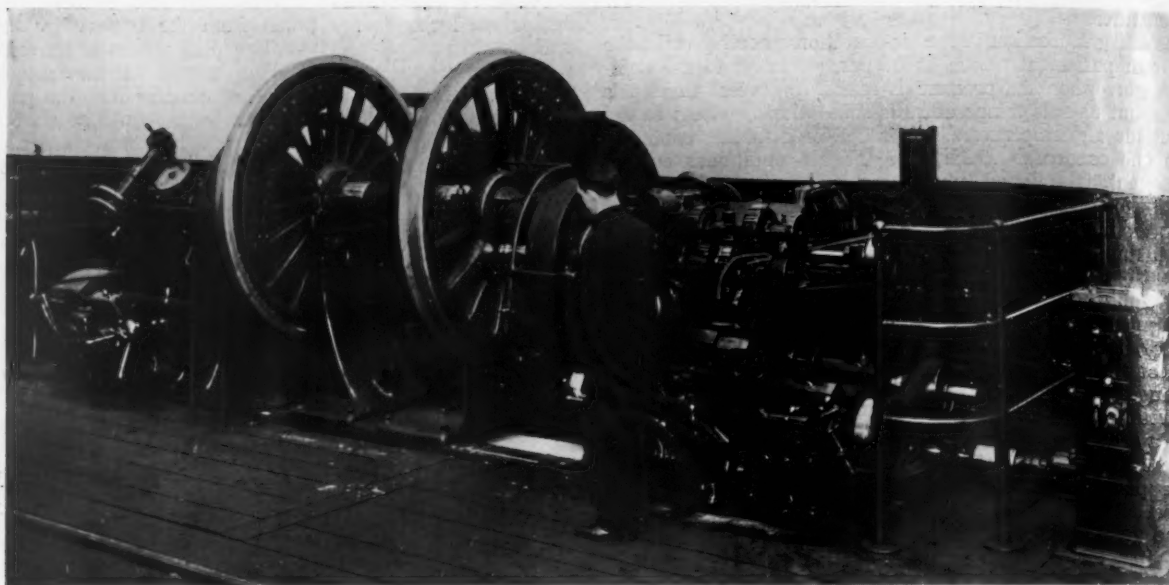


Fig. 1—Churchill crank-pin quaterning machine at work in St. Rollox works, L.M.S.R., on the driving wheels of a 2-6-4 taper boiler tank locomotive

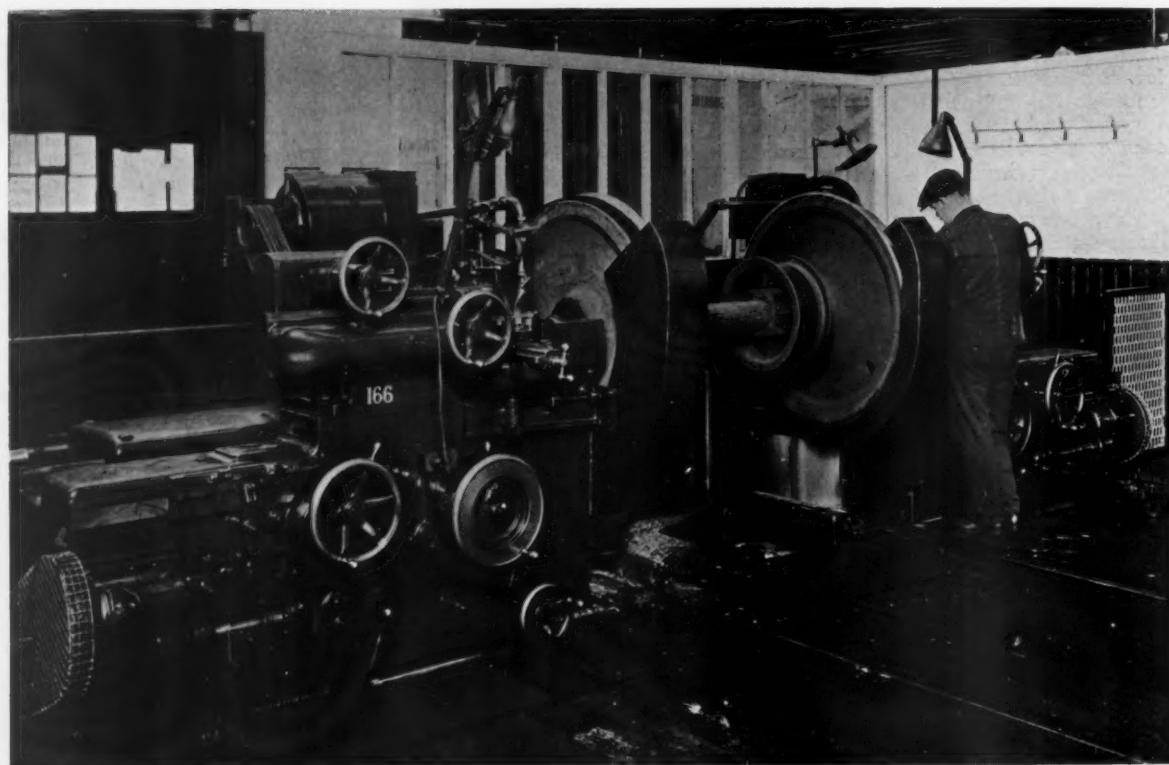


Fig. 2—Grinding the journals of a standard L.M.S.R. carriage axle on a Churchill D.A.J. grinding machine installed at St. Rollox works

MACHINE TOOLS AT ST. ROLLOX WORKS, L.M.S.R.

(See article opposite)

MACHINE TOOLS AT ST. ROLLOX WORKS, L.M.S.R.—III

Crank-pin and journal grinding machines

ON a recent visit to the St. Rollox works of the L.M.S.R. at Glasgow, we noted grinding operations in progress on locomotive crank-pins and railway carriage axles. These are performed on Churchill grinding machines of two different types, both of which are illustrated opposite. The driving wheels seen in Fig. 1, mounted on a Churchill locomotive crank-pin quaterning machine, are those of a 2-6-4 taper-boiler tank engine. A gauge is used to centralise the axle, and the two heads of the machine are set by means of the insertion of parallel slips to suit the required stroke. The grinding wheel is 14-in. dia. by 1½-in. wide, and runs at a speed of 1,470 r.p.m.

The machine is used for work on the crank-pins of outside cylinder engines only, and it has attachments for boring and grinding crank-pin holes. Adapters are provided for dealing with crank-pins set at 120° if required. The machine, we are informed, has been particularly valuable in correcting the quaterning of the crank- and coupling-rod pins on the older types of engines, and whilst giving a very greatly improved finish over the earlier and less adaptable type which it replaces, also shows a saving in time of approximately 25 per cent., this being mainly due to the speed at which it can be set up.

The operation of grinding the axle journals of railway carriages is performed at St. Rollox works on a Churchill D.A.J. pattern axle journal grinding machine (Fig. 2). The wheels seen in the illustration are of the standard L.M.S.R. carriage type, 3-ft. 7½-in. dia., with journals 9 in. long by 4-in. dia. The grinding wheel is 20-in. dia. by 5-in. wide, and runs at a speed of 1,125 r.p.m. The wheels themselves are driven by a belt running on the tread of one of the tyres, as shown in the illustration, and are raised into position by means of a hydraulic ram.

Until a few years ago the journals of carriage axles were finished on roller burnishing machines; but, by the use of the type of machine illustrated, apart from giving a greatly improved finish over that obtained by burnishing, the time taken for the operation has been reduced by 25 per cent. In addition to grinding the journal the machine is fitted with tool rests so that in the event of the journal being badly out of truth it can be skimmed up, thus reducing the amount of work required to be done by the grinding wheel. The wheels to be dealt with are fed into the machine at ground level and lifted into position on the centres by means of a hydraulic jack incorporated in the bed of the machine. The machine is installed in the carriage lifting shop and, as in the case of the crank-pin grinding machine, is separately motor-driven.

A NEW COUNTERSINKING TOOL

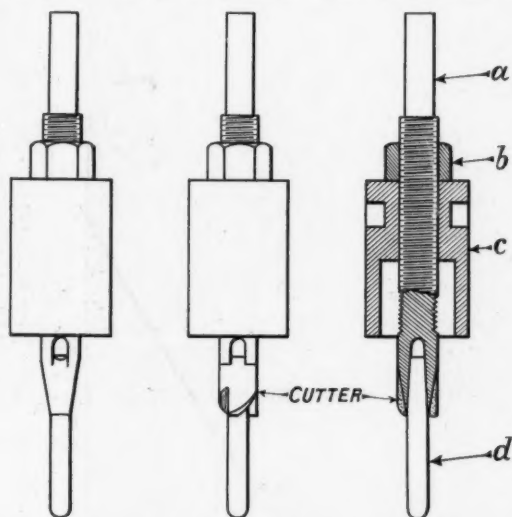
Time-saving device with an adjustable depth stop

TIME is the main factor in present day mass production methods. The following description of a countersinking tool fitted with an adjustable depth stop, for use in metal, wood and fibre working, may therefore be of interest as representing time-saving principles combined with accuracy and dependability.

The tool consists of a shank or main shaft *a* with a taper at one end to carry the different size of cutters; the other

end is threaded half the length of the shank, which at this end is reduced in size and left plain for the purpose of fitting into the chuck of a machine or brace. A stop *c* which screws up and down the shank is also threaded half its length, and the remainder drilled out to a larger diameter to allow for any swarf fouling between the stop and the material being worked on. A lock nut *b* prevents the stop moving from its set position on the shank. A tapered guide *d* or drill fitted into the end of the shank at the tapered end ensures the tool running true. The stop may be adjusted to the smallest fraction of an inch. The tool, with the stop and lock nut removed from the shank, can be made into a tool for drilling and spot facing in one operation, thus again saving time and trouble in changing the drill in the chuck of the machine for a spot facing machine.

The tool has many applications for metal work, wood-work, fibre (such as brake linings), and in the locomotive, shipbuilding, structural steel and motor industries. It can, of course, be used in connection with drilling operations and should have considerable scope in the general field of engineering.



Countersinking tool with cutter fitted, showing on right details of adjustable depth stop

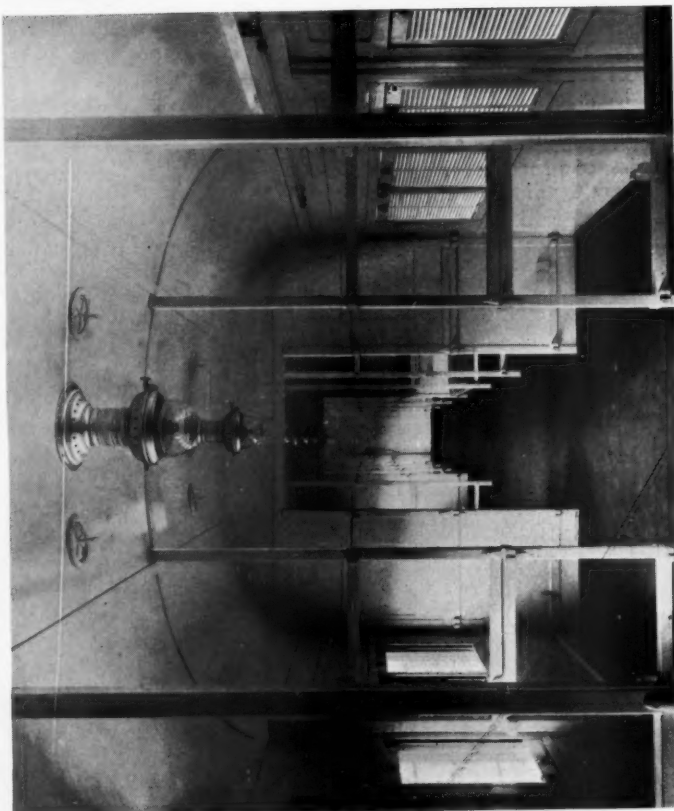
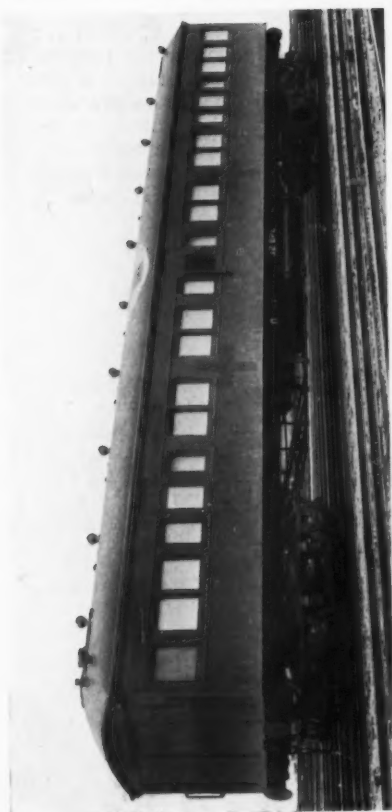
JOINT COMMITTEE ON MATERIALS AND THEIR TESTING.—The joint committee announces the publication of reprints of the seven papers presented at the second General Discussion on Non-destructive Testing held under its auspices in London on November 25, 1938. Copies (about 81 pp.) are available in paper covers at the price of 3s. 6d. post free from the Secretary, the Institution of Electrical Engineers, Savoy Place, Victoria Embankment, London, W.C.2.



Sir Nigel Gresley, Chief Mechanical Engineer of the L.N.E.R., and Lady Deedes, wife of General Sir Charles P. Deedes, Colonel of the King's Own Yorkshire Light Infantry, on the footplate of L.N.E.R. 2-6-2 No. 4843, named after the regiment on May 20. (See paragraph on page 880)



An old view of the wooden tramroad bridge over the River Ribble at Preston, now used for pedestrians. The Preston and Walton tramroad, opened in 1803-5, was closed in 1859. Our picture is reproduced by permission from James Barrett's *History of the Ribble Navigation* to which we are indebted on March 31 last



Excursion car of the Victorian Government Railways converted for use as an ambulance. Only three beds had been fitted when the interior view was taken. It is intended to form a complete train of these vehicles (See Overseas paragraph on page 854)

RAILWAY NEWS SECTION

PERSONAL

Sir Henry Chapman, C.B.E., has been elected to a seat on the boards of the Leopoldina Railway Co. Ltd. and the Leopoldina Terminal Co. Ltd.

Sir Thomas A. L. Brocklebank, Bart., has been appointed a representative of the London Midland & Scottish Railway Company on the Cheshire Lines Committee, in place of the late Mr. Charles Booth.

Mr. G. J. A. Lindenberg, Chief Superintendent (Motive Power), Johannesburg, South African Railways & Harbours, has been appointed Assistant Chief Mechanical Engineer, Pretoria.

Mr. G. A. Dalton has been appointed Chief Electrical Engineer, South African Railways & Harbours, headquarters, Johannesburg.

From *The London Gazette* of May 9, Regular Army Reserve of Officers Movement Control Staff (Railways & I.W.T.): Captain R. A. Smith resigns his commission (May 10).

INSTITUTE OF TRANSPORT

The following elections were made at a recent meeting of the Council of the institute:—

Members

The Rt. Hon. the Viscount Horne, Chairman, Great Western Railway Company.

Mr. G. F. Bilbrough, Traffic Expert, Birmingham Chamber of Commerce.

Mr. Alan Cobb, Locomotive Running Superintendent, Southern Railway.

Mr. W. F. French, Managing Director, United Service Transport Co. Ltd.

Mr. C. H. Hamilton, O.B.E., System Manager (Kimberley), South African Railways & Harbours.

Mr. Edward Huskisson, Managing Director, Thos. Cook & Son Ltd.

Mr. A. E. Moore, Audit Accountant, Southern Railway.

Mr. C. H. Newton, Chief General Manager, L.N.E.R.

Mr. H. G. N. Read, Assistant (Road, Air Transport & General) to Chief Commercial Manager, L.M.S.R.

Mr. H. E. O. Wheeler, Superintendent of Operation, Southern Railway.

Associate Members

Messrs. K. C. Bakhle (G.I.P.R.); R. Britzius (Birmingham & Midland Motor Omnibus Co. Ltd.); F. Bryan (Eastern National Omnibus Co. Ltd.); K. Ellson, Frank Gilbert (Southern Railway); K. A. Fraser, F. B. Humphris (N.S.W. Government Railways); J. Ramsay (S.A.R. & H.); C. Rayner-Smith (G.W.R.).

Mr. F. H. Colebrook, M.C., A.M.Inst.C.E., has been appointed District Engineer, York, L.N.E.R., in succession to Mr. A. Cameron, A.M.Inst.C.E., who has retired. Mr. Colebrook was educated at Christ's Hospital, West Horsham. In 1906 he was articled to the late Mr. Edmund J. Cullis, A.M.Inst.C.E., of Gloucester, and was engaged on dock works, reinforced-concrete bridges and structures, and general engineering works. He was employed with Taylor, Wallin &

Engineer to Mr. F. E. Harrison in the Newcastle District. He was appointed District Engineer, Hull, in March, 1937, which position he now vacates to take charge of the York District.

Mr. E. S. Bradley, A.M.Inst.C.E., has been appointed District Engineer, Hull, L.N.E.R., in succession to Mr. F. H. Colebrook. Mr. Bradley entered the company's service in 1902 in the District Engineer's office at Bishop Auckland, where he was chiefly engaged



Mr. F. H. Colebrook, M.C.

Appointed District Engineer, York, L.N.E.R.



Mr. E. S. Bradley

Appointed District Engineer, Hull, L.N.E.R.

Taylor, Civil Engineers, Newcastle-on-Tyne, for a short period in 1910, and in December of that year joined the former North Eastern Railway as an Assistant in the District Engineer's Office, Northumberland District, where his duties were mainly in connection with bridges, coal shipping staiths and their equipment, and other structural works. He served overseas in commissioned rank in France with the 10th Bridging Train, 560th Company, R.E., 10th and 296th Railway Construction companies, R.E., and was awarded the Military Cross. After demobilisation in 1919, he resumed his duties with the company and was promoted in 1921 to the position of Chief Draughtsman in the District Engineer's Office, Bishop Auckland, where his principal interest was in the preparation of detailed drawings for permanent way work, and in the supervision of permanent way renewals. In 1924 he was transferred to Darlington, and in 1926 was appointed Assistant District Engineer under Mr. J. C. Valentine. Mr. Colebrook returned to Newcastle in 1927, on his appointment as Assistant District

Engineer in the preparation of schemes for permanent way alterations and renewals, buildings, structures, and so on. From 1922 to 1924 he was responsible for the execution of new works, including bridges, structures, and permanent way alterations carried out on the district. He was appointed Chief Draughtsman at Bishop Auckland in 1924, where his duties included the organisation of permanent way maintenance and renewals on the district. In July, 1928, he was appointed Assistant District Engineer at Darlington, which position he now vacates on his appointment to Hull.

Mr. A. Cameron, A.M.Inst.C.E., who has retired from the position of District Engineer, York, L.N.E.R., began his career on the North British Railway. He joined the service of the North Eastern Railway Company at the Newcastle Engineer's office in 1899, where he acted as Resident Engineer for two years on the construction of the Ponteland Railway and for five years on the construction of the King Edward Bridge over the Tyne at Newcastle, which was



*Members of the Institution of Railway Signal Engineers visiting the Ediswan Lamp Works at Ponders End on May 5.
(Mr. J. Boot, President, seventh from right, front row)*

opened by King Edward VII. Mr. Cameron was appointed Assistant District Engineer at Bishop Auckland in 1906, and District Engineer there in 1915. He took up the position of District Engineer at York in 1919, which position he occupied until his retirement.

A luncheon was given and a presentation made to Mr. Cameron on May 8 by the officers of the company. In handing over the gift, Mr. Jenkin Jones, Divisional General Manager, wished Mr. Cameron many years of happy retirement. Mr. F. E. Harrison, Engineer, North Eastern Area, expressed particularly the good wishes of all grades of the Engineer's Department.

Mr. A. E. Tylden-Pattenson, Member of the Railway Board of India, has proceeded to Europe on six months' sick leave from May 13, and Mr. J. H. F. Raper, officiating General Manager of the Great Indian Peninsula Railway, has been appointed to officiate as Member, Railway Board. Mr. Raper went out to India in the service of the old G.I.P. Railway Company as a Traffic Probationer in June, 1912, and passed through practically all grades of the Traffic Department of that railway. His services were taken over by the State when the G.I.P. Railway became a State Railway in 1925, and he was confirmed as Chief Traffic Manager in

March, 1933. He officiated as Agent (now designated General Manager) from May to October, 1936, and again from early last year up to the date of his appointment to the Railway Board.

Sir Herbert Walker, K.C.B., formerly General Manager of the Southern Railway, and now a Director of that company, arrived in Buenos Aires on a private visit on April 21.

INDIAN RAILWAY STAFF CHANGES

Mr. A. F. Harvey, General Manager, E.B.R., has been permitted to retire from Government service as from March 24.

Mr. D. Macauley has been appointed to officiate as Deputy C.M.E. (Shops), E.B.R., as from March 24.

Mr. E. L. Manico has been promoted permanently as Deputy Chief Operating Superintendent, N.W.R., as from January 10.

Mr. H. H. Cooper has been confirmed as Deputy Chief Mechanical Engineer, N.W.R., as from January 10.

Mr. F. R. Hawkes, who has been officiating as a member of the Railway Board, returned to the N.W.R. and resumed his duties there as Chief Commercial Manager on March 29.

Mr. J. Scruby, Deputy Chief Engineer, N.W.R., has been granted 15½ months' leave preparatory to retirement as from April 4.

The L.N.E.R. announces that Mr. A. Hainsworth, Chief Clerk at Marylebone goods depot, has been appointed Agent at George Inn depot.

The late Mr. Charles S. Page, Chief Docks Manager of the Great Western Railway from 1926 to 1935, left estate of £6,856 (£3,653 net). An obituary notice of Mr. Page appeared in our February 17 issue.

Lord Rankeillour has joined the board of the Metropolitan-Cammell Carriage & Wagon Co. Ltd.

Mr. W. F. Wegener, Chief Mechanical Engineer of the Federated Malay States Railways, has been transferred from the class of Associate Member to that of full Member of the Institution of Civil Engineers.

We regret to record the death at Bath on May 12 of Sir David Harrel. He was 98. One of the most capable and esteemed servants of the crown in Ireland, Sir David was from 1893 to 1902 Under-Secretary for Ireland, and during and after the war he sat on many arbitration boards. He was independent Chairman of the Durham Coal Trade Conciliation Board, and of various railway conciliation boards, and Chairman of the Royal Commission on Railway Conciliation. Sir David Harrel



Photo] Officers, retired officers, and their guests at the Indian State Railways annual dinner (see opposite)

[Swaine

was sworn of the Irish Privy Council, and was created G.C.B., G.B.E., and K.C.V.O.

Steady improvement is reported to be maintained in the condition of Mr. S. T. Burgoyne, Superintendent, N.E. Area, L.N.E.R., who has been seriously ill in a York nursing home.

Mr. H. H. Mauldin, Divisional General Manager, Southern Area, L.N.E.R., has been appointed a Director of the Eastern Counties Omnibus Co. Ltd. Mr. Mauldin succeeds Mr. C. H. Newton, who has resigned his seat on the board subsequent to his appointment as Chief General Manager of the L.N.E.R.

We regret to record the death on May 21 of Mr. Robert Angus Macmillan, who, with his brothers, founded Gleniffer Engines Limited. Mr. Macmillan was Joint Managing Director of the firm, which manufactures the Gleniffer diesel engines for small-power marine propulsion.

We regret to announce the death, on April 5, of Mr. Walter L. Ross, a former President of the New York, Chicago & St. Louis (Nickel Plate) Railroad.

Mr. Kairo Kataoka, Director of the Railway Investigation Bureau of the Japanese Ministry of Railways, has been appointed Director of the Board of Tourist Industry of the Ministry, in place of Mr. Makoto Den, appointed Vice-President of the North China Transportation Company, a subsidiary of the North China Development Company.

PENNSYLVANIA RR. APPOINTMENTS

The following appointments are announced by the Pennsylvania Railroad:—

Mr. W. T. Covert, Chief Engineer of Maintenance of Way, Eastern Region, to be Assistant Chief Engineer of the system

Mr. H. H. Garrigues, General Superintendent of the Central Pennsylvania Division, to be Chief Engineer of Maintenance of Way, Eastern Region.

Mr. G. S. West, General Superintendent of the Southwestern Division, to be General Superintendent of the Central Pennsylvania Division.

Mr. P. E. Feucht, Superintendent of Passenger Transportation, Eastern Region, to be General Superintendent of the Southwestern division.

Mr. H. L. Nancarrow, Superintendent of the Buffalo Division, to be Superintendent of Passenger Transportation, Eastern Region.

Mr. J. S. Gillum, Superintendent of the Monongahela Division, to be Superintendent of the Buffalo Division.

Mr. P. W. Neff, Train Master of the Columbus Division, to be Superintendent of the Monongahela Division.

Sir Thomas Brocklebank, who, as announced in our issue of April 7, has been appointed a Director of the L.M.S.R., has now been elected to a seat on the board of the Midland Bank Limited.

PRESENTATION TO MR. W. E. PRESTON

Mr. W. E. Preston, of the Vice-President's Office, Traffic & Commercial, L.M.S.R., has retired after nearly 51 years with the railway. On May 22, in the Shareholders' Meeting Room at Euston, a presentation to Mr. Preston from his colleagues of a grandfather clock and a bureau was made by Mr. Ashton Davies, Acting Vice-President. Mr. G. L. Darbyshire presided at the ceremony.

Mr. Ashton Davies said that Mr. Preston had made a great contribution to the former L.N.W.R. and the L.M.S.R. He was to be admired for his efficiency and his knowledge of his work. Now, after 51 years, they wished him God Speed in his retirement, with the knowledge that he left behind him a large number of friends with a warm place for him in their hearts. Mr. Ashton Davies concluded by expressing his appreciation of the advice and assistance he himself had received from Mr. Preston.

Other speakers similarly paid tribute to the unfailing goodwill shown by Mr. Preston towards those with whom he worked and who sought his help.

Mr. Preston expressed his gratitude for the presentation in a short speech.

Under the scheme for the organisation of road transport in a defence emergency (outlined in our January 20 issue), a Regional Transport Advisory Committee and seven district committees have now been formed for the Eastern (No. 4) Emergency Region. The members of the regional committee are:—

Messrs. J. P. Allix, District Goods and Passenger Manager, L.N.E.R., Cambridge; J. M. Birch, Assistant Managing Director, Birch Bros. Ltd.; O. Borer, B.E., M.Inst.C.E., A.M.I.Mech.E., Engineer to the River Great Ouse Catchment Board; L. A. Carey, M.I.T.A., Transport Manager, Reckitt & Colman Limited; D. J. Coleman, Chairman and Managing Director, Eastern General Transport Co. Ltd.; Major E. L. D. Lake, J.P., Director, Greene, King & Sons Limited; Messrs. H. A. Newport, Director, H. A. Newport Limited; C. H. Pickett, General Manager, Eastern National Omnibus Co. Ltd.; Major A. L. Routh, Ickleton; Alderman A. E. Stubbs, District Secretary, Transport & General Workers' Union, Cambridge; Mr. H. Sutton, Junr., Toby Motor Transport, Great Yarmouth; Major A. D. Whatman, Deputy Traffic Commissioner, Eastern Traffic Area and Director, Mann, Egerton & Co. Ltd.; Mr. J. Worssam, General Manager, Eastern Counties Omnibus Co. Ltd.

Indian State Railways Annual Dinner

As the East India Sports Club is at present undergoing rebuilding, the Indian State Railways dinner reverted to the Café Monico, Piccadilly Circus, on Monday last, May 22. The chair was taken by Mr. J. C. Highet, F.C.H., retiring member of the Railway Board. Apart from "The King-Emperor," there was but one toast, namely "The Indian State Railways," proposed by the Chairman.

The Chairman opened his remarks by saying that he had searched the records of past dinners with a view to saying something appropriate on the subject, and what struck him most were the recurring difficulties of the Honorary Secretary, not only in whipping up retired State Railwaymen to get them to attend, but also in finding a Chairman. Continuing, Mr. Highet said he could not give the latest news from India as he had left that country in December, and had been visiting many others on his way home. He had taken special note of their railways, including those of the United States, and had come to the conclusion that Indian railways compared very favourably with them. His most noteworthy impressions of the American lines were the complete absence of red tape and the self-reliance of the staff of all grades, coupled with a keen interest in the well-being of the railways. He instanced the second of these attributes by relating how, in the absence of any higher official at a way-side halt, a bus driver of an associated feeder service in California had taken the law into his own hands and telephoned to headquarters for authority to issue a pass in favour of Mr. Highet and his party.

Turning to Mr. Jameson, President of the dinner, who was seated on his left, the Chairman welcomed him back to his accustomed place; he had been unable to attend the dinner last year owing to ill-health. Mr. Highet also expressed the indebtedness and thanks of all present to Mr. N. D. Calder, the energetic and capable Honorary Secretary of the dinner. Finally he proposed the toast of the evening.

Among those present were:—

Mr. D. G. Allen, Engineer-Captain G. L. Dunnett, Messrs. S. M. Avril, H. H. C. Barton, Sir Ernest Bell, Mr. F. H. Bibra, Capt. F. A. Bibra, Messrs. A. S. A. Binns, C. V. Bliss, R. L. Bliss, G. J. H. Bolton, F. S. Bond, V. H. Boalch, Lt.-Colonel F. H. Budden, Messrs. D. S. Burn, N. D. Calder, R. Carpmuel, C. M. Cock, H. D. Creedy, H. M. Davies, R. Dormer, S. T. Dutton, W. De Groot, W. T. Everall, A. J. Fraser, H. D. Furley, Commander H. V. Gaud, R.N., Messrs. G. E. Gillies, J. A. W. Gillies, A. P. Goldney, W. T. Griffiths, A. R. Gundry, J. M. Hartley, A. F. Harvey, J. C. Highet, W. G. Hornett, A. S. Jameson, J. A. Kay, K. N. L'Evine, P. H. Madin, F. B. Martin, Sir R. McLean, Messrs. N. C. McLeod, K. J. McNeil, J. A. Morris, Lt.-Colonel A. H. L. Mount, Messrs. H. C. Norbury, J. J. C. Patterson, J. I. Pearce, L. V. Pont, J. B. Remington, J. Riordon, H. H. Saunders, E. A. Scott, W. A. Stanier, G. Thomson, W. Toyne, J. Tritton, Lt.-Colonel A. Watson, Messrs. A. E. Williams, and H. N. Young.

There was thus a very welcome increase in the attendance this year.

Ancillary Businesses of the British Railways, 1938

IV—Steamboats

The experience of the British railways last year in so far as their steamboat business was concerned, varied considerably. The G.W.R. and the Southern Railway each secured an improvement over 1937; L.M.S.R. net receipts fell by almost one-third, while the L.N.E.R. incurred a loss of approximately £18,000 compared with a profit of £49,000 in the previous year. Total figures for the four companies reveal a decrease of £87,252 in gross receipts, an increase of £13,593 in expenditure; and a resultant decline of £100,845 in net receipts. Separate figures for each company are shown in the following table:—

Company	Gross receipts		Expenditure		Surplus		Per cent. of surplus to gross receipts	
	1938	1937	1938	1937	1938	1937	1938	1937
G.W.R. ...	£348,292	£339,282	£324,753	£319,331	£23,539	£19,951	6.8	5.9
L.N.E.R. ...	812,774	874,507	830,702	825,480	Dr. 17,928	49,027		5.7
L.M.S.R. ...	1,389,493	1,508,577	1,192,814	1,204,290	206,679	304,287	14.8	20.2
S.R. ...	1,539,787	1,465,232	1,142,115	1,127,690	397,672	337,542	25.8	23.0

G.W.R. gross receipts increased by £9,000, which was due, in equal proportions, to greater carryings of passengers and merchandise. There was also a satisfactory increase in parcels business, but a decrease was recorded in respect of livestock. Working expenses were £22,500 less than in 1937, due to a substantial reduction in the expenditure on repairs, but this was offset by an increase of £27,900 in the amount transferred to renewal fund. Total expenditure was thus £5,400 greater than in the previous year, but the receipts nevertheless showed an increase of £3,600.

In the case of the L.N.E.R. there was a reduction of approximately £62,000 in the gross receipts, of which £32,000 was accounted for by passengers and £25,000 by merchandise. Expenditure rose by £5,000, with the result that there was a deficit of £18,000 compared with a profit of £49,000 in 1937. This disappointing result was doubtless due to the general unsettlement arising from the international situation. It is interesting to note, however, that the company's Harwich services continued to show a substantial credit balance, while the week-end cruises from Harwich by the ss. *Vienna* were again very popular. There was a decline of 14 per cent. in goods traffic compared with 1937, but the Harwich—Zeebrugge train ferry maintained its carryings and dealt with some interesting new traffics. The tonnage of traffic dealt with by the Humber Continental services also showed a decline, but the operating of these services by Asso-

ciated Humber Lines resulted in a considerable saving in working costs.

L.M.S.R. gross receipts declined by £109,100, of which £44,000 was accounted for by passengers, £52,000 by merchandise, and £13,000 by livestock. Expenditure was £11,500 less than in 1937, notwithstanding an increase of £28,000 in the amount transferred to renewal account, and the net profit of £206,679 was £97,600 less than in the previous year.

Steamboats constitute the principal ancillary business of the Southern Railway, and the receipts from this source have an important bearing on the final results achieved by the com-

pany each year. The net profit of £337,542 secured in 1937 was the highest since 1930, and the surplus of £397,672 obtained last year was only £20,000 less than the 1930 profit, a result which was all the more satisfactory in view of the international situation. Gross receipts increased by £74,000, of which £52,000 was accounted for by passengers and the remainder by parcels, mails, and miscellaneous receipts. There were slight decreases in the receipts from merchandise and livestock. Expenditure increased by £14,000 and net receipts by £60,000 or 18 per cent. Commenting on the increase of £74,000 in gross receipts, Mr. Robert Holland-Martin, Chairman of the company, stated at the annual general meeting that the Southampton boats contributed £31,000; those from Dover and Folkestone £38,000; and the New-haven boats £5,000. In the case of the Dover and Folkestone receipts, £19,000, or half of the increase, was due to the train ferry, a service which is becoming more and more popular by reason of the added comfort and convenience which it affords to passengers making an overnight journey between London and Paris.

The number of passengers conveyed by the ferry last year was 76,000, compared with 73,000 in 1937, and the Wagon-Lits Company has found it necessary to order six new coaches to meet the requirements of the increasing business. The tonnage of cargo conveyed was 76,000 compared with 60,000 in the previous year, and the number of cars carried increased from

1,637 in 1937 to 4,600 last year. The total number of cars conveyed from Southern ports last year showed an increase of 18 per cent. over 1937 and constituted a record. In order to cater for the additional business, extra services were introduced in July and August by the Dover—Dunkirk ferry steamers and the ss. *Auto-carrier* operating between Dover and Calais. There was a slight reduction in the number of passengers conveyed between Portsmouth and Ryde compared with 1937, when the Coronation Naval Review resulted in exceptional business, but there was an increase in the carryings between Lymington and Yarmouth.

Improved Services

There were several interesting developments in the railway companies' steamboat services last year. At the beginning of May the G.W.R. introduced a twice-weekly service in each direction between Fishguard Harbour and Eire via Waterford in substitution for the weekly service previously in operation. In February the L.N.E.R. accelerated the nightly steamship service from Antwerp to Harwich (Parkeston Quay) by approximately one hour, with corresponding accelerations from Brussels, Cologne, and other Continental stations. In connection with the Empire Exhibition at Glasgow, the L.M.S.R. inaugurated a daily service of short cruises on the Clyde at the popular fare of 1s. return. For this purpose the company utilised two new boats accommodating 100 passengers, which had been built for the service by William Denny & Bros. Ltd., Dumbarton. This firm was also entrusted with the construction of a vessel for the conveyance of motor vehicles on the Stranraer—Larne service.

In June the L.M.S.R. luxury motor vessel *Swan* was launched at Lakeside for services on Windermere, and a new dredger, *Foulney*, built for the company by Ferguson Bros. Ltd. and intended mainly for service at Barrow, was launched at Port Glasgow in September. In May last year a new diesel-engined vessel *Lymington*, was placed in service by the Southern Railway between Lymington and Yarmouth (Isle of Wight). This vessel was the first in British waters to be fitted with the Voith-Schneider system of propulsion. The Southern Railway has decided to order a new cross-Channel vessel to replace the *Maid of Orleans*, and the construction of this vessel has also been entrusted to William Denny & Bros. Ltd.

NATIONALISATION OF PRIVATE LINES IN SWEDEN.—According to a Government Bill recently passed by the Swedish Riksdag, all privately-owned railways of whatever gauge—except local light railways and tramways—are to be nationalised within the next five years.

Views on the "Square Deal"

A statement by Lord Stamp, and some reactions in other quarters to the Transport Advisory Council's report

Comment on the findings of the Transport Advisory Council's "square deal" report (summarised on pages 858-858 began immediately upon its publication. By lunch-time last Friday an evening newspaper placard reading "Railways Win the 'Square Deal'" was on the London streets. The same afternoon the press had the opportunity of hearing an official—and more qualified—view of the situation in an interview given by Lord Stamp and Sir Ralph Wedgwood at Fielden House, headquarters of the Railway Companies' Association.

Lord Stamp said that the matter had emerged from the Transport Advisory Council as a very different proposition from what it went in. The report went a long way towards starting co-ordination on the road on a scale not envisaged by the railways at first. From the national point of view the result was more satisfactory than merely a "square deal." At the same time the matter had become more difficult, because the Acts of Parliament required to carry out the report would involve new and novel legislation. Lord Stamp urged that the good spirit between diverse interests evident in the report should not be allowed to go stale through delay to legislation for which the need was urgent.

Railway Stockholders' Statement

The urgency of legislation to give effect to the recommendations of the report was further endorsed in a statement issued by the General Secretary of the Railway Stockholders Union, wherein the value placed by stockholders upon the standard revenue as a safeguard for their interests was also expressed. The statement read:—

"From the standpoint of railway stockholders, the report of the Transport Advisory Council is to be welcomed and it is to be hoped that it will pass through Parliament speedily. One point must be emphasised. This is the recommendation made by the council that the 'obligation upon the Railway Rates Tribunal to adjust charges so as to ensure a standard revenue should be repealed.' The union feels strongly the obligation which the Act of 1921 placed upon the tribunal was a real one. Nevertheless, experience has shown that increases in passenger and freight rates alone could not achieve the standard revenue contemplated by Parliament. It is, therefore, more important for stockholders that the newly-devised co-ordination between the railways and road hauliers should become effective, and thereby give the main-line companies the traffic and revenue required. It will, however, be appreciated that, if the obligation upon the Rates Tribunal is withdrawn, stockholders are making a very substantial sacrifice as

they have always regarded the standard revenue as a bargain made with them by Parliament at the time their securities in the old main-line companies were exchanged for the existing stocks.

"As stockholders see the matter, what the report foreshadows is twofold. In the first place, a more elastic service to the public than has been possible under the old-time system of rate fixation, and, in the second place, a measure of co-operation with the other branch of national transport, which has hitherto been impossible owing to the absence of fixed charges. Release from the old-time fetters will be very welcome, but even more important should be the co-ordination machinery which is already functioning in the form of the Central Conference. It is a happy fact that each group of the Road & Rail Central Conference has its own Chairman and these take control of proceedings alternately, so scrupulous care has been taken to prevent the dominance of one party or the other. In future, it is to be hoped that agreed rates will cover cost plus a reasonable profit for which ever branch of national transport is responsible for the service to the public, and this is precisely how every business-like agreement should work. The principle of reasonable profit is the only one which can have lasting value."

Comments of the Press

Press comment on the whole was unanimous in congratulating the Transport Advisory Council upon its labours, and differences of view were expressed largely in estimations of the extent to which the railways had got what they asked for. Below we reproduce some representative extracts:—

The Times.—In all the report inevitably leaves an impression of contrast between the ambitious scope of the railways' original appeals and the limited nature of the answer. It is not certain that the proposals would work, and if they did work they would not improve the railways' financial position very greatly. But the truth is that no plan other than unification of transport would really solve the railways' problem.

Daily Telegraph & Morning Post.—The issue of what had seemed a very contentious and knotty problem may be regarded as a very happy one. But, as the council points out, the extent to which any agreements reached may advance the ultimate aim of the co-ordination of all forms of transport depends on the spirit in which those agreements are implemented.

The Financial News.—The report is the most fateful document yet produced on the vexed problem of transport in this country. The pivotal point

is, naturally, the Road-Rail Agreement. But the basic provision—and the one that may well bring a host of fresh problems in its train—is that granting the railways the freedom they desired from statutory regulations. This, however, is not the railways' square deal. It is the T.A.C.'s square deal—a compromise reached by representatives of the interests involved. Whether the result can be described as a real step towards the avowed object of co-ordination, time alone will show.

The Financial Times.—The report of the Transport Advisory Council on the railway companies' claim for the removal of statutory regulations governing their freight charges is important not so much for the extent of the relief recommended as for the definite approach which it makes towards the co-ordination of the nation's transport as a whole. That is the keynote of the report.

News Chronicle.—The railways have every right to be satisfied with the report and with the measure of agreement among the different interests, notably the road transport interests, which stands behind it.

The Star.—The British railways are to have their "square deal," though with the corners chipped off.

Daily Express.—The railways have been given a square deal. They must give a square deal to the public. Their new freedom must not be abused. The report was prepared when the railways were much less prosperous than they are now. Today they are getting higher revenues without raising rates.

The Manchester Guardian.—The Transport Advisory Council's report on the railways' claim for a "square deal" seems to have satisfied everyone—or nearly everyone. . . . The railways may well be satisfied, for they have got the bulk of their demands.

The Yorkshire Post.—Not the least aspect of the relief felt by the railways will be the saving of time and expense in protracted and costly procedure hitherto necessary to obtain revision of a particular rate—a delay which often means loss of business. The periodical conferences with traders and with the road carriers will bring closer contact between the interests involved, and should lead to a better understanding of the railway position.

The Financial Times also published an interview with Sir William Wood, Vice-President, L.M.S.R., in which he was quoted as saying:—

"Generally, I think the recommendations satisfy the needs of both trade and industry and the railways, because they permit of the development of a charging system on natural lines and free from the grip of the dead-hand of the present artificial arrangements. It is a great step forward, and I do not in any way resent—in fact I welcome—the five-year period which it is proposed to apply to the new law."

RAILWAY LAW FOR THE QUARTER

Common Employment

Metcalfe v. London Passenger Transport Board.—"The Times," April 28

Repercussions of the decision of the House of Lords in *Radcliffe v. Ribble Motor Services* on the doctrine of "common employment" are still heard in the Courts. In *Metcalfe v. London Passenger Transport Board* an omnibus conductor in the service of the board was injured in a collision between his omnibus and a tramcar belonging to the board. He claimed damages from the board for personal injuries due to the negligence of its servant, the driver of the tramcar. Negligence was admitted but Mr. Justice Macnaghten held that the common employment by the board of the bus conductor and the tramdriver prevented the conductor from recovering. No doubt that decision was right at the time and was founded on the law as it then stood. But afterward, the *Ribble Motor Services* case went to the House of Lords (55 T.L.R. 459) and as we pointed out in our last legal notes, the crux of the judgment was that the doctrine of common employment has no application where the plaintiff is exposed to the general risks of a public thoroughfare and runs the risk of negligent driving of any road user. Indeed with so gigantic a concern as the L.P.T.B. it would seem an unfair result of the doctrine that a driver should be exposed to such risks and in so large a percentage of cases be without a remedy. The doctrine is reasonable enough as applied to the tram depot or bus garage, but not in relation to the general risks of driving in the streets where omnibuses are so numerous. The Court of Appeal owing to the recent interpretation of the law in the *Ribble Motor Services* case felt bound to reverse Mr. Justice Macnaghten's decision and to hold the plaintiff entitled to recover damages which were assessed at £3,715. On April 28 the Court of Appeal refused the board leave to appeal to the House of Lords, stating that counsel must make application to the Appeal Committee of that House.

The Duty of Pedestrians

Chisholm v. L.P.T.B. 54 *The Times* L.R. 773

The crossings for pedestrians commonly known as "Belisha" crossings and created by the Road Traffic Act, 1934, s. 18, have given rise to a diversion of opinion among eminent judges. Since *Bailey v. Gaddes* (1938) 1 K.B. 156, it was supposed that a pedestrian if he was on one of these crossings was sacrosanct. Contributory negligence on his part would be no defence to an action by him if he was injured by an oncoming car.

In *Chisholm v. L.P.T.B.* the crossing was clear and the pedestrian thought he was safe. The Judge in the Court below thought that the defendant's vehicle was one "approaching" the

crossing" and therefore bound to give way. But the two Lords Justices (Scott L.J. and Goddard L.J.) held that if the plaintiff had looked to his right before he set out to cross, he looked too early for it to be of any use, and they found for the transport board. Lord Justice Du Parcq however dissented; he laid it down however that if a driver retains, up to the last moment when he can reasonably expect a pedestrian to cross, sufficient control to enable him to pull up at the crossing, he has done all that can be expected of him.

A good rule in these cases was that laid down in *Radley v. London & N. Western Railway Co.* that even if the plaintiff has contributed to the accident he can still recover if the defendant had a last clear chance to avoid it.

Compensation to Officers

Perry v. L.P.T.B. (1939). *All. Eng. Rep.* 421.

The Courts are still considering cases for compensation to employees provided for under the London Passenger Transport Act 1933. Here the applicant was a blacksmith employed in connection with the L.C.C. Tramways. He was given a week's notice on November 25, 1931, and was unemployed for six months, after which he was again employed in his old job and by the Act of 1933 he came in July into the employment of the board. In January 1937 he was dismissed owing to the change over from tramcars to trolley buses. He claimed, under section 73 of the Act, compensation for loss of employment. The board contended that that section did not apply because he had not been "continuously employed" by the L.C.C. from March 12, 1931, to July 1, 1933, and they also said he was in no worse position than before the Act was passed, because he was always subject to a week's notice and therefore was not entitled to compensation.

There was also a question whether subsequent earnings were to be taken into account if it became necessary to assess compensation. Mr. Justice Atkinson thought that "continuous employment" was not necessary to entitle a man to compensation under the Act, if only he had been in the employment of the Council on March 12, 1931, and had been before the appointed day employed in an undertaking to be transferred.

On the second point again, Mr. Justice Atkinson held that it made no difference that the man could be dismissed at a week's notice. He was still an "existing servant" between the material dates and was therefore entitled to compensation, and had been dismissed in consequence of the change over.

As to subsequent earnings the Act says that regard is to be had to the emoluments which he has or might

have acquired by accepting other employment offered him by the board, &c., and "all other circumstances of the case." Here the learned judge thought that one must take into consideration the fact that he had been earning practically as much in wages after the transfer as he had earned before.

This meant that the man recovered £100 instead of £300. These then are the points in the decision, (1) continuous employment is not essential, (2) even a weekly servant is entitled to compensation, and (3) the man's subsequent earnings must be taken into consideration in assessing compensation.

Wages during Illness

Marrison v. Bell. (1939) 1 *All. Eng. Rep.* 745

The old rule at common law was that a workman who is temporarily disabled by illness from working is entitled to his wages during his illness without deduction. There might of course be special terms in the contract which would alter this rule. Thus in *Niblett v. Midland Railway Company* (1907) 96 *Law Times* 462, the plaintiff was a railway employee who had agreed to be bound by the company's rules. As usual he joined the company's friendly society by whose rules a member was entitled to sick pay during illness, but not if he was earning wages from the company. In February, 1905, the plaintiff became ill and received sick pay until September, when he was given notice terminating his employment. It was held that he could not claim wages during his illness because the rules were part of his contract of service and by the rules his right to wages during illness was suspended.

Again under the Workmen's Compensation Act the workman who takes the benefits of the Act on the ground of his incapacity to earn wages and gets compensation on the footing of his wages cannot turn round and say that he is entitled to the balance of his wages during the time when he was disabled. Under that Act the right to full wages is undoubtedly suspended during the period of his incapacity. See *Elliott v. Liggins* (1902) 2 K.B. 84.

Under the National Health Insurance Acts however different considerations apply. There the benefits of the Act are in addition to the workman's wages, being medical treatment and disablement benefits irrespective of the amount of his wages. The Court of Appeal therefore held in *Marrison v. Bell* that the receipt of sick pay did not prevent a workman from recovering his wages.

Easter Sitings

The Southern Railway Company lost its appeal in *Swain v. the Company* which was heard last term. The case raised interesting points of law as to the duty to repair a road bridge over the line, and as to the Public Authorities Protection Act. We have previously dealt with these, and with the judgment of Humphreys, J., in the Court below.

Inspection of new South African Rolling Stock

At the invitation of the Metropolitan-Campbell, Carriage & Wagon Co. Ltd., a party of guests yesterday inspected the new steel air-conditioned coaches for the Union Limited and Union Express trains for South Africa now completed at the company's Saltley works, Birmingham. The builders were represented by: Messrs. A. J. Boyd, T. L. Taylor, J. W. Kidd, and F. J. Hills. Amongst others who accepted the company's invitation were:—

Office of the High Commissioner for the Union of South Africa.—Messrs. W. H. Cogill, M. H. Moodman, and C. W. Harrison; South African Railways.—Mr. D. McIntosh; L.M.S.R.—Mr. M. G. Bennett; Southern Railway.—Mr. L. Lynes; Pullman Car Co. Ltd.—Mr. W. J. Sedcole.

Consulting Engineers: Messrs. Rendel, Palmer & Tritton.—Mr. B. P. Ellis; Messrs. Wolfe Barry & Partners.—Mr. A. C. Carr; Messrs. Freeman, Fox & Partners.—Mr. Bertram Fox and Mr. W. R. Simmons; Messrs. Livesey & Henderson.—Mr. J. D. C. Couper and Mr. C. E. Dee; Messrs. Sandberg.—Mr. C. Hatherly; Messrs. Robert White & Partners.—Mr. Colin White.

Crown Agents for the Colonies.—Mr. A. Campbell; African Railways, Egyptian State Railways.—Mr. Damer Dawson; Rhodesia Railways.—Mr. A. E. Hadley and Mr. R. E. Fitzgerald; Indian Railways, Bengal & North Western Railway.—Sir James Williamson; South Indian and Bengal Nagpur Railways.—Sir Ernest Bell; South American Railways, San Paulo (Brazilian) Railway.—Mr. Vernon Hinde; Antofagasta (Chili) & Bolivia Railway.—Mr. A. W. Bolden and Mr. A. G. Hunt; THE RAILWAY GAZETTE.—Mr. J. A. Kay; Agents.—Evans, Thornton & Co., Buenos Aires, Mr. L. G. H. Farmer; J. Clack & Co., Bulawayo.—Mr. P. R. Taylor; Department of Overseas Trade (Industrial Section).—Mr. C. E. House; Modern Transport.—Mr. D. R. Lamb; Reuters (for South African papers), Mr. A. T. Penman; Metropolitan-Vickers Electrical Co. Ltd.—Mr. T. R. Grady; R. D. Summerfield & Son.—Mr. R. D. Summerfield and Mr. R. E. Summerfield; J. Stone & Co. Ltd.—Mr. K. Preston; Mr. Norman Morris, Mr. W. J. Ruston, and others; Beyer, Peacock & Co. Ltd.—Mr. Cyril Williams.

A full illustrated description of the new rolling stock appears on pages 861-7.

Evacuation by Rail

In connection with correspondence in the columns of *The Times*, Sir James Milne, writing as Chairman of the General Managers' Committee, the Railway Companies' Association, yesterday set forth the position of evacuation by rail as follows:—

"The Government has made arrangements with the railways for the evacuation of children and certain other classes from London and the larger provincial towns. A scheme for this evacuation has been drawn up and will be put into force as soon as the Government call upon the railways to do so.

"An evacuation scheme of these dimensions cannot be carried out without monopolising a large part of the carrying capacity of the railways, and while it is in progress other services must be cut down materially. The railways will aim, however, to maintain a reduced service of trains avail-

able for ordinary passengers. The extent of this service must depend upon the nature of any emergency demands which are placed upon the railways over and above the evacuation scheme. It is therefore desirable that the public should realise that the service given is likely to be limited in capacity and subject to alterations or cancellation at short notice. Every effort, however, will be made by the railways to meet the requirements of the travelling public, subject to the primary needs of the Government."

Mechanising Toton Marshalling Yard, L.M.S.R.

At 6 a.m. on Whitsun-Tuesday (May 30) the L.M.S.R. will bring into operation the biggest scheme of shunting yard modernisation it has yet carried out, involving the complete mechanisation of the down sidings at Toton (Derbyshire), where from 4,000 to 5,000 wagons for North Midland coalfields are sorted out every 24 hr. during peak periods. Work has been proceeding for over a year on remodelling the layout and installing centralised point control, hydraulic railbrakes, and colour-light signals; the scheme when in full operation is expected to yield swifter and smoother working, and a quicker flow of empty wagons from all parts of the L.M.S.R. system back to the collieries.

A large proportion of the coal supply for London comes by way of Toton and the scheme now about to be brought into operation affects the down yard only, which is about half the extent of the Toton sidings. Major items of the reconstruction have had to be carried out at weekends, but it is a tribute to the planning arrangements between the Engineering and Traffic Departments that throughout the whole period traffic operations have been kept going. Under the new system of operation which is to come into force on Tuesday next, the present method of controlling the shunting of wagons into the various sorting sidings by mechanically operated points and by shunters controlling the wagons with hand-brakes, is being superseded by electro-pneumatic control of the points and mechanical braking.

"Humping" will now be performed by 350-h.p. diesel-electric locomotives of special design. These engines carry enough fuel for a week's continuous work, and are operated by one man at a time. Another feature of the mechanisation scheme is the introduction of a Teletype apparatus, for communicating from the hump room to the operators in the control tower the shunting sequence for each train, indicating the siding destination of every wagon or wagons and the number of wagons in each movement. In conjunction with the mechanisation, improved lighting equipment (including special lights for use during fog) and additional loudspeakers and telephones are being installed.

New Cross-channel Vessel for the S.R.

William Denny & Bros. Ltd., as announced in our issue of February 17, has in hand for the Southern Railway a sister ship to the *Canterbury* for the Golden Arrow service. Despite the restrictions of the depth of the French ports limiting the draught of these ships, on careful planning it has been found possible to give an additional deck to the ship and this, of course, will increase the passenger accommodation. The hull will have a raked stem and full cruiser stern, while the top part will tumble home 3 ft. to the boat deck. The boat will have two masts and one funnel, and the propulsion will be by two sets of single-reduction geared turbines with a 12,000 h.p. rating. The experience of the ferry boats on the Dover-Dunkirk service, which burn Kent coal operated by mechanical stokers and generating steam through Yarrow-type water-tube boilers, will be used on this boat, and there will be a Howden grit arrester fitted in the funnel. Local coal will be used for this important service. The coal bunkers will have a capacity of 120 tons, and are so arranged that coaling can take place cleanly by means of coal boxes. The vessel will have a speed of 22 knots. The new ship will be able to carry 1,300 passengers, and the extra deck enables great improvements to be made in the position and size of the public rooms, particularly with regard to the positioning of the refreshment rooms, which will be in a more stable part of the boat than has been possible in previous ships. There will also be one of the modern large tea lounges situated in the forward part of the ship with a view ahead. This is in accordance with the practice to be found on many liners as well as on some other cross-Channel steamers. The second class cabin accommodation will be in advance of anything yet seen on the short sea routes. There will be 14 private cabins, two cabins-de-luxe, and two telephone kiosks, while there will be a sheltered deck for first class passengers and an open deck for second class. The whole of the accommodation will be heated and ventilated throughout by the Thermotank system.

Forthcoming Events

- June 3 (Sat).—Permanent Way Institution (Manchester-Liverpool), at C.I.C. Station, Lord Street, Southport, 3 p.m. "Three Reinforced Concrete Bridges," by Mr. W. Beatty.
- June 8 (Thurs).—Railway Club, at Royal Scottish Corporation Hall, Fetter Lane, London, E.C.4, 7.30 p.m. "Traffic Control Systems," by Mr. C. Anderson.
- June 8-14.—Stephenson Locomotive Society (London). Summer Tour, Eire and North Wales.
- June 14 (Wed.).—Institution of Civil Engineers. Annual Conversazione.
- June 14-17.—Institute of Transport, at Southampton. Annual Congress.
- June 30 (Fri.).—East Indian Railway Officers, at Trocadero Restaurant, Piccadilly Circus, London, W.1, 6.30 for 7 p.m. Annual Dinner.
- July 6-8.—Institution of Civil Engineers, at Birmingham. Summer Meeting.

STAFF AND LABOUR MATTERS

Calling up of Reservists

Notices calling to the colours a large number of Army Reservists were issued last week-end in expectation of the passing into law of the Reserve & Auxiliary Forces Bill. The date in the calling up notice for the first batch is June 15. Officers of the Regular Army Reserve of Officers have also been warned that their return to the service is necessary.

R.C.A. Annual Conference

The annual conference of the Railway Clerks' Association was held at Bournemouth from May 15 to 18, and during the four days a variety of subjects was discussed. The conference was opened by the President of the association, Mr. F. C. Watkins, J.P., M.P., who during the course of his address said that the association has always been convinced that the transport needs of the nation, together with the well-being of the railway workers, could be supplied most completely by the institution of a national transport board which would be charged with the responsibility of providing for the community an effective system for the general benefit. Some of the matters dealt with by the conference were:—

Air Raid Precautions.—A resolution was adopted instructing the executive to call for a report from the railway companies and the London Passenger Transport Board setting out the arrangements that had been made for the protection of members of the staffs, especially those in large blocks of offices. The General Secretary (Mr. W. Stott) said that the executive was told only a short time ago that the railway companies were not yet in a position to give a definite reply either in regard to protection of staff or evacuation.

Office Accommodation.—During a discussion on railway office accommodation, demands were made that clerks should be able to work and take their meals in reasonably decent and healthy conditions. It was stated on behalf of the executive that it did not accept the point of view of the railway companies that they were excluded from the legal rights of local authorities for the inspection of railway property under the Public Health Acts.

Conscription.—A resolution, that while determined to share all the responsibilities of national defence and national obligations, the conference declared its belief that all the necessary man-power could have been secured by voluntary recruitment, was carried by a large majority.

Railway Staff National Tribunal Decision.—As we announced last week, the conference decided to accept the findings of the tribunal (Decision No. 5). An amendment that the association should approach the railway companies with a view to further negotiations and should meet the other two unions to consider the relationship of the three unions towards existing nego-

tiating machinery was not accepted, but it was made clear on behalf of the executive that discussions with the other unions are likely to take place.

Salaries and Wages and Capital.—A resolution in the following terms was passed:—

"That this conference views with alarm the announced intention of the railway companies to attack the already low standards of salaries and wages of railway employees, and declares that increases, not decreases are long overdue.

"While fully associating itself with the declared policy of one unified transport system under public ownership and control, conference decides that adequate remuneration for the staff should take precedence over dividends, and calls for a drastic writing down of capital represented in Railway stocks, to bring it more into line with present-day market values; and resolves that no reduction in salary or wages for the purpose of increasing dividends on the inflated capital of the Railway industry will be tolerated."

A further resolution was passed expressing determination "not to accept any worsening of our National Agreements, even though the adjustment may be of a temporary nature."

Public Service Vehicle Operators, County Durham

The Industrial Court sat in Durham on April 24, 25, and 26, to hear a claim by the Transport and General Workers' Union that wages and conditions of employment of drivers and conductors employed by certain public service operators are not in accordance with section 93 of the Road Traffic Act, 1930. The union contends that the rates of wages paid to and the conditions of employment of the drivers and conductors employed by the undertakings concerned are less favourable than the rates and conditions of employment commonly recognised by employers and trade societies in the trade in the district in which the work is carried out.

On behalf of the employers it was contended that within the meaning of the Fair Wages Resolution there were no rates commonly recognised by employers and trade societies in the districts in which the work is carried out and that in the absence of such recognised rates and conditions those in fact being paid and observed in the undertakings concerned were those which in practice prevailed amongst good employers in the districts in which for the purposes of the resolution the work is carried out, or, in certain cases, the rates and conditions of employment obtaining in the nearest districts in which the general industrial circumstances are similar.

The Court, by award 1,728, found that to comply with section 93 of the Road Traffic Act, 1930, the rates and conditions of drivers and conductors should be not less than those appearing in the schedule to the award. The main provisions are: rates of pay to drivers

1s. 2½d. rising to 1s. 4d. an hour. Male conductors 9½d. rising to 1s. 1½d. an hour; female conductors 9½d. rising to 1s. an hour.

The conditions of service provide that no less than 90 per cent. of the staff is to be guaranteed a 48-hr. week of six days. Sunday duty and bank holidays to be paid at the rate of time-and-one-quarter. Christmas Day to be paid at double time. Night duty between 12 midnight and 6.0 a.m. on special working, and overtime—time worked in excess of 54 hours in any week—to be paid at the rate of time-and-one-quarter. Annual holidays, 7 consecutive days with 56 hours' pay after 12 months' continuous service. Thirty-two operators are affected by the award.

Hunt's Bank Annual Festival

The annual L.M.S.R. Hunt's Bank Athletic Festival was held on the Football Club Ground, Bloomfield Road, Blackpool, on Saturday, May 20. The weather was fine and approximately ten thousand members of the staff and their friends spent an enjoyable afternoon and witnessed some very excellent racing. Amongst those present were:—

The Mayor and Mayoress of Blackpool (Alderman W. Roston Duckworth, M.P.), The Town Clerk of Blackpool (Mr. Trevor J. Jones), The Supt. of Police, Blackpool (Mr. H. Pearson), The Advertising Manager of Blackpool (Mr. W. Foster).

L.M.S.R.—Mr. Ashton Davies, C.V.O., Acting Vice-President; Messrs. W. O. Hickson, Divisional Solicitor; J. H. Robinson, Divisional Superintendent of Operation; F. H. Cowell, District Passenger Manager; S. W. Spendlove, Divisional Signal and Telegraph Engineer; K. C. Marrian, District Engineer, Manchester; W. Hepworth, District Engineer, Blackburn; J. H. Openshaw, District Estate Agent, Manchester; H. Clegg, District Estate Agent, Leeds; A. Allmark, District Estate Agent, Crewe; V. H. Openshaw, Assistant to Signal and Telegraph Engineer, Euston; W. Davies, Assistant Divisional Superintendent of Operation; J. Wood, Goods and Docks Superintendent, Wyre Dock; E. Taylor, District Controller, Huddersfield; A. G. Baxter, Divisional Superintendent of Police, Manchester.

Mr. F. H. Cowell, before asking Mrs. Hickson to present the prizes, called upon Miss Jean Holt to hand to Mrs. Hickson a bouquet of red carnations on behalf of the Festival Committee.

The "Stamp" Cup for the department gaining the most points at the festival was won by the Office of the Divisional Superintendent of Operation, and after Mr. J. H. Robinson had received the cup from Mrs. Hickson he proposed a vote of thanks to her for the gracious way in which she had performed the presentation. Mrs. Hickson responded and said she was very glad indeed to be present and congratulated the winners.

Alderman Roston Duckworth, M.P., the Mayor of Blackpool, paid tribute to the close association between the L.M.S.R. and his town and expressed the hope that the developments which were taking place would be of mutual benefit to both and that the athletic festival would continue to be held at Blackpool to cement the relationship.

Northern Ireland Transport Losses

£200,000 Provision in Ulster Budget

The Northern Ireland Minister of Finance (the Rt. Hon. J. M. Andrews) presenting his Budget statement, reported that the amount available for Imperial contribution and surplus was £935,000. Continuing, he said: "Against this figure I am charging a further sum of £200,000 which would otherwise go to increase the Imperial contribution. It is with the agreement of the Chancellor of the Exchequer of the United Kingdom that our contribution is reduced by this amount in the current year, in order to enable me to make a start against the losses which the Exchequer, I regret to say, is bound to incur by reason of our guarantees to the borrowings of the Road Transport Board.

"I am also glad to say that the Chancellor has most kindly expressed his agreement to corresponding provision—not necessarily of the same amount—being made each year over an extended period. I must, however, tell the House very clearly and definitely that this arrangement, both

as regards the current year and as regards the future, is subject to the condition that we satisfy the British Treasury that our new transport scheme will be established on such a basis as to ensure a sound and economic result. I am sure that this arrangement will be welcomed, as, if the conditions are complied with, I am hopeful that it will prevent a special tax being imposed to meet transport losses."

No indication was given by the Minister of the total amount of the losses on the Northern Ireland Road Transport Board, but members of the opposition during the subsequent Budget debate declared that they amounted to £4,000,000, and these statements were not denied. While the arrangement for deducting annually the loss of the Transport Board from the Imperial contribution is welcomed in Northern Ireland, as it obviates the necessity of levying a special tax, the announcement of the arrangement was the big surprise of

this year's Northern Ireland Budget statement. The Joint Parliamentary Committee appointed to investigate the findings of the M'Lintock Committee report and that of the Recorder of Belfast upon the transport problem in Northern Ireland, has not yet issued its report and no arrangement for meeting the Transport Board's losses was expected until this report was issued. The report is now in course of preparation and will be issued within the next few months, when a special meeting of the Northern Parliament will be called to consider it before any definite scheme for the future control of Road Transport is embodied in a Parliamentary Bill.

The Minister of Finance in his Budget statement also announced that the duties on private motorcars in Northern Ireland would be increased from 15s. to 25s. per horsepower as in Great Britain.

The change will provide £100,000 next year and £200,000 in a full year. There will also be a small increase in the duties on motorcycles, but no increase in motor commercial or agricultural vehicles, or in the duty of £2 on a private car used for drawing a trailer.

QUESTIONS IN PARLIAMENT

Bus Passengers and Rail Travel

Mr. W. Leonard (Glasgow, St. Rollox—Lab.), on May 10, asked the Minister of Transport if the arrangement permitting Green Line bus passengers to make their return journey by rail included the L.M.S.R. and L.N.E.R.; and if similar facilities existed in Scotland for bus travellers.

Captain Euan Wallace (Minister of Transport): The answer to the first part of the question is in the affirmative. Similar arrangements exist in a number of localities in Scotland.

Mr. W. Leonard (Glasgow, St. Rollox—Lab.), on May 17, asked the Minister of Transport what bus companies in Scotland had agreements with the railways providing that outgoing bus passengers might return by rail.

Captain Euan Wallace (Minister of Transport), in reply, circulated the following list:—

Arrangements in Scotland for Combined Road and Rail Travel

The L.N.E.R. has arrangements of this kind with:—

Scottish Motor Traction Co. Ltd.
Central S.M.T. Co. Ltd.
W. Alexander & Sons Ltd.

The L.M.S.R. has similar arrangements with:—

Scottish Motor Traction Co. Ltd.
Central S.M.T. Co. Ltd.
W. Alexander & Sons Ltd.
Western S.M.T. Co. Ltd.
Caledonian Omnibus Co. Ltd.
Highlands Transport Co. Ltd.
Pitlochry Motor Company
Mr. W. Macky of Dunphail.

Workmen's Tickets at Morden

Mr. Chuter Ede (South Shields—Lab.), on May 17, asked the Minister of Trans-

port whether he was aware that although there was extensive congestion at Morden station in the early morning peak hours, the London Passenger Transport Board refused to issue workmen's tickets overnight; and whether he would make representations to the board on this matter.

Captain Euan Wallace (Minister of Transport): The London Passenger Transport Board states that the practice of issuing workmen's tickets overnight increases the congestion, which is already acute, on the last trains on which such tickets are available, and that it is difficult, if not impossible, to restrict holders of tickets issued overnight to the time prescribed for their use in the morning. The board also states that there are four windows and eight machines available for the issue of workmen's tickets at Morden station and that the number of machines is shortly to be increased to 13.

L.P.T.B. Smoking Compartments

Mr. S. S. Hammersley (Willesden, E.—C.), on May 22, asked the Minister of Transport if he was aware that the London Passenger Transport Board had in service cars which were composite, having sections without any effective partition between the smoking and non-smoking compartment; and would he make representations to the board that there should be effective partitions between the non-smoking and the smoking sections.

Captain Austin Hudson (Parliamentary Secretary to the Ministry of Transport): I propose to communicate with the London Passenger Transport

Board again on this matter and will write to my honourable friend in due course.

Mr. Hammersley: In making these representations to the London Passenger Transport Board, will the Parliamentary Secretary bear in mind that there was a time when smokers had to come to this House in order to have legislation to permit them to smoke in railway compartments, and will he prevent a situation arising in which non-smokers will have to come to the House in order to breathe fresh air?

Captain Hudson: I will bear that in mind.

Mr. I. L. Orr-Ewing (Weston-super-Mare—C.): Will the Parliamentary Secretary bear in mind, also, in his correspondence with the London Passenger Transport Board, that in some cars there is no partition dividing the first class from the third class?

There was no reply.

Turkish Locomotive Contract

Mr. R. R. Stokes (Ipswich—Lab.) asked the Secretary to the Overseas Trade Department whether he was aware that the recent order to British manufacturers for, approximately, £1,000,000 of locomotives from the Turkish Government, stipulated that those locomotives must be of German design and all accessories were to be purchased in Germany; whether those accessories were to be financed out of the credit granted to Turkey, as was the main contract; and what steps he was taking to insist on those accessories being manufactured in England?

Mr. Ronald Cross (Parliamentary Secretary to the Board of Trade) in a

written reply stated: The locomotives to which the hon. member refers will be manufactured in this country. The existing locomotives in Turkey are of German origin, and in order to obtain the contract it was necessary for the manufacturers to accept the condition that certain accessories, representing a small proportion of the total order, must be obtained from Germany though they will be fitted here.

Transport Advisory Council's Report

Sir Frank Sanderson (Ealing—C.), on May 24, asked the Minister of Transport if he could now state whether he approved in principle of the Transport Advisory Council's report; and if so, whether he would take immediate steps for the preparation of the statutory scheme to carry it out.

Lieutenant-Commander R. T. H. Fletcher (Warwick, Nuneaton—Lab.) also asked the Minister of Transport what action he proposed to take on the report of the Transport Advisory Council on the railway companies' application.

Captain Euan Wallace (Minister of Transport): The Government has decided to accept in principle the recommendations of the Transport Advisory Council in its report on the proposals of the main-line railways; and I should like to pay tribute to the work of Sir Arthur Griffith Boscawen and his colleagues. The specific changes in the law which may be involved require careful consideration, but it is intended to introduce appropriate legislation as soon as possible next session.

Train Service to Raynham Aerodrome

Sir Thomas Cook (Norfolk, N.—C.), on May 24, asked the Minister of Transport if he was aware of the inadequacy of the train service between Raynham aerodrome and Fakenham, Norfolk; and whether he would take steps to secure that extra bus services were instituted to enable airmen and their families stationed at this aerodrome to travel to this neighbouring town.

Captain Euan Wallace: The railway company has furnished me with particulars of the train services which are available for this aerodrome, which has quite recently been opened, and has assured me that it will be very ready to provide additional facilities as soon as the traffic warrants them. As regards road transport, I have no power to compel bus operators to institute any particular services. If they wish to do so, their applications are considered by the Traffic Commissioners, and I have no power to interfere with the Commissioners' discretion to grant licences unless an appeal against their decision is made to me under Section 81 of the Road Traffic Act, 1930. I am informed that the Commissioners for the area in question will very shortly consider applications by local bus operators for licences to run bus services between the points mentioned.

NOTES AND NEWS

Rival Transport Unions.—The National Passenger Workers Union—a breakaway organisation from the Transport & General Workers Union—is bringing an action against the London Passenger Transport Board. It claims a declaration that the refusal by the board to allow members of the N.P.W.U. to be represented by their own officials is illegal, and asks for an injunction to restrain such refusal.

Polish Express Derailed.—The engine and several carriages of a Warsaw-Gdynia express were derailed outside Danzig on May 18, with the result that the driver and fireman received injuries from which they later died, but there were no serious casualties among passengers. The engine is reported to have been completely wrecked, and a light six-wheeled coach next the tender had its end telescoped by the latter, whereas the steel coaching stock withstood the shock remarkably well. Latest messages state that the cause of the derailment has been found to be excessive speed.

A.R.P. Training and L.M.S.R. Ambulance Workers.—More than 40,000 L.M.S.R. employees have now been trained in Air Raid Precautions, it was stated by Mr. G. L. Darbyshire, the company's Chief Officer for Labour and Establishment, in presiding at the final of the L.M.S.R. ambulance competition for England and Wales, recently held at the Wharnclyffe Rooms, London. A large proportion of these 40,000 A.R.P. men has been recruited, said Mr. Darbyshire, from the company's voluntary ambulance workers, many of whom hold key positions in A.R.P. work. The ambulance final, which was contested by nine teams (survivors of an original entry of 489), was won by the Crewe Machine Shop team; Camden Goods (London) was placed second, and Uttoxeter (Staffs.) third. The awards were presented by Lady Stamp, in the presence of a large gathering which included a number of the company's chief officers.

Northern Ireland Traffic.—Passengers (excluding season-ticket holders) carried on railways wholly in Northern Ireland in the first two months of 1939 numbered 500,286, compared with 514,287 in the first two months of 1938, and total passenger receipts fell from £28,977 to £28,339. Merchandise and minerals conveyed in the first two months of 1939 were 77,463 tons, a decrease of 8,441 tons in comparison with the first two months of 1938; the number of livestock rose from 31,445 to 32,716, but the total receipts from goods traffic fell from £31,954 to £29,293. On railways partly in Northern Ireland, the ordinary passengers in the first two months of 1939 were 600,097, against 601,692 in the first two months of 1938, and the total passenger receipts

of £52,052 were £2,026 lower. Merchandise and mineral tons increased from 135,766 to 172,442, and the number of livestock from 101,647 to 106,001. Total receipts from goods traffic in the first two months in 1939 were £103,738, against £91,296 for the corresponding period in 1938.

Railway Benevolent Institution.—The eighty-first annual meeting of the members of the Railway Benevolent Institution will be held at the Southern Railway Company's Offices, Waterloo, London, S.W.1, at 4 p.m. on Thursday, June 29. The report of the board of management will be presented. The meeting will also consider, *inter alia*, new rules in substitution for those at present in force; granting permanent annuities to 45 widows and 3 members in the officers' department; permanent annuities for 3 widows and 2 members in the servants' department; also contingent annuities to 1,056 widows and 448 members in the servants' department.

L.N.E.R. Locomotive Naming Ceremony.—The L.N.E.R. "Green Arrow" class locomotive No. 4843 was named *The King's Own Yorkshire Light Infantry* at Doncaster on Saturday last, May 20. The ceremony was performed at the Plant Works sidings by Lady Deedes, wife of General Sir Charles P. Deedes, K.C.B., C.M.G., D.S.O., Colonel of the Regiment. Sir Ronald Matthews, Chairman of the L.N.E.R., opened the proceedings, and Sir Nigel Gresley, Chief Mechanical Engineer, formally handed the locomotive over for working. After Lady Deedes had named the locomotive, the Colonel of the Regiment presented regimental badges to Driver Spicer and Fireman Schofield, who both served with distinction in the K.O.Y.L.I. during the great war. Colonel W. St. A. Warde-Aldam, D.S.O., thanked Lady Deedes for performing the ceremony. The engine was available for inspection by the public from 1.15 p.m. to 2.0 p.m., and during the afternoon it worked a special train conveying K.O.Y.L.I. officers and men from Doncaster to York.

G.W.R. Ambulance Gold Medalists' Outing.—A civic reception was accorded to the 500 Great Western Railway ambulance gold medallists and their wives who met for their seventeenth annual outing at Gloucester on May 20. The large party, consisting of holders of the company's gold medal for 15 years and upwards first-aid efficiency, and assembled from all parts of the line, was presided over at luncheon by Mr. S. G. Hearn, Divisional Superintendent. Among the guests were the Mayor and Mayoress of Gloucester (Mr. and Mrs. Trevor Wellington), Mr. H. Leslie Boyce (City Member), Mr. H. Adams Clarke (Staff Assistant to the General Manager),

and Mrs. Adams Clarke, Mrs. Hearn, Mr. S. Morris (late Divisional Superintendent, Gloucester), and Miss C. A. Ault, Ambulance Centre Secretary. The Mayor welcomed the party to the historic City of Gloucester, and congratulations and good wishes were extended to them by Mr. Hearn and Mr. Leslie Boyce. An enjoyable coach tour of the Cotswold villages occupied the afternoon, the party re-assembling for tea at the Cadena Cafe before dispersing for their several destinations, after one of the most enjoyable and successful of the series of annual gatherings. The arrangements were in the hands of Mr. W. E. J. Perks, the Gloucester Ambulance Secretary, and his divisional committee.

Cheshire Lines Property Sale.

An important and extensive sale by auction took place at the Property Exchange, Liverpool, on May 11, when, by order of the Cheshire Lines Committee, Daniel Watney & Sons, of London, offered a considerable amount of property in Liverpool. Much of this property was bought when the Liverpool

part of the railway was built, some seventy years ago. It includes shops in Bold Street and Berry Street, under which runs the tunnel from Central station, and various other properties along the line of the tunnel until its emergence at Brunswick goods station. Altogether the sale included some 32 shop and commercial premises, 56 houses and cottages, and several building sites. The sale realised over £18,000.

Buenos Aires Transport Corporation.—In order to provide the necessary working capital for the Buenos Aires Transport Corporation, arrangements are proceeding for placing in London and on the Continent £2,800,000 of 5½ per cent. short-term debentures of the Corporation. The placing will consist of 5½ per cent. short-term debentures for U.S. \$11,500,000 (£2,450,000) and £350,000, the sterling portion to be placed in London, and the balance in Amsterdam, Brussels, and Switzerland. The corporation was formed last year to take over existing passenger transport services in Buenos Aires.

British and Irish Traffic Returns

GREAT BRITAIN	Totals for 20th Week			Totals to Date		
	1939	1938	Inc. or Dec.	1939	1938	Inc. or Dec.
L.M.S.R. (6,830½ mls.)						
Passenger-train traffic...	453,000	454,000	— 1,000	8,421,000	8,605,000	— 184,000
Merchandise, &c. ...	514,000	465,000	+ 49,000	9,177,000	9,555,000	— 378,000
Coal and coke ...	258,000	233,000	+ 25,000	5,706,000	5,506,000	+ 200,000
Goods-train traffic ...	772,000	698,000	+ 74,000	14,883,000	15,061,000	— 178,000
Total receipts ...	1,225,000	1,152,000	+ 73,000	23,304,000	23,666,000	— 362,000
L.N.E.R. (6,320 mls.)						
Passenger-train traffic...	291,000	289,000	+ 2,000	5,529,000	5,620,000	— 91,000
Merchandise, &c. ...	343,000	319,000	+ 24,000	6,327,000	6,746,000	— 419,000
Coal and coke ...	264,000	222,000	+ 42,000	5,228,000	5,141,000	+ 87,000
Goods-train traffic ...	607,000	541,000	+ 66,000	11,555,000	11,887,000	— 332,000
Total receipts ...	898,000	830,000	+ 68,000	17,084,000	17,507,000	— 423,000
G.W.R. (3,737½ mls.)						
Passenger-train traffic...	191,000	189,000	+ 2,000	3,569,000	3,604,000	— 35,000
Merchandise, &c. ...	219,000	188,000	+ 31,000	3,891,000	3,873,000	+ 18,000
Coal and coke ...	120,000	98,000	+ 22,000	2,311,000	2,311,000	—
Goods-train traffic ...	339,000	286,000	+ 53,000	6,202,000	6,184,000	+ 18,000
Total receipts ...	530,000	475,000	+ 55,000	9,771,000	9,788,000	— 17,000
S.R. (2,140 mls.)						
Passenger-train traffic...	293,000	287,000	+ 6,000	5,581,000	5,596,000	— 15,000
Merchandise, &c. ...	67,000	64,000	+ 3,000	1,177,000	1,217,000	— 40,000
Coal and coke ...	29,000	27,000	+ 2,000	676,000	657,000	+ 19,000
Goods-train traffic ...	96,000	91,000	+ 5,000	1,853,000	1,874,000	— 21,000
Total receipts ...	389,000	378,000	+ 11,000	7,434,000	7,470,000	— 36,000
Liverpool Overhead ...	1,696	1,308	+ 388	26,416	26,646	— 230
Mersey (4½ mls.) ...	4,212	4,127	+ 85	89,614	87,962	+ 1,652
*London Passenger Transport Board ...	587,600	573,900	+ 13,700	26,738,300	26,454,900	+ 283,400
IRELAND						
Belfast & C.D. pass. (80 mls.)	2,061	1,915	+ 146	36,922	36,631	+ 291
" " goods	384	390	— 6	8,636	8,713	— 77
" " total	2,445	2,305	+ 140	45,553	45,344	+ 214
Great Northern (543 mls.) pass.	9,150	8,250	+ 900	175,250	171,600	+ 3,650
" " goods	10,400	8,750	+ 1,650	200,250	172,850	+ 27,400
" " total	19,550	17,000	+ 2,550	375,500	344,450	+ 31,050
Great Southern (2,076 mls.) pass.	30,094	28,309	+ 1,785	595,519	599,133	— 3,614
" " goods	37,931	37,224	+ 707	817,382	801,567	+ 15,815
" " total	68,025	65,533	+ 2,492	1,412,901	1,400,700	+ 12,201

* 47th Week (before pooling)

British and Irish Railway Stocks and Shares

Stocks	Highest 1938	Lowest 1938	Prices	
			May 24, 1939	Rise Fall
G.W.R.				
Cons. Ord. ...	65 ¹ / ₄	25 ³ / ₄	34 ¹ / ₂	+2 ¹ / ₂
5% Con. Prefce....	118 ³ / ₄	74	85 ¹ / ₂	+1
5% Red.Pref.(1950)	111 ³ / ₄	90	93	+1
4% Deb. ...	111	97 ¹ / ₂	98	+ ¹ / ₂
4 ¹ / ₂ % Deb....	112 ⁵ / ₁₆	100 ¹ / ₂	101	+3
4 ¹ / ₂ % Deb....	118 ¹ / ₂	104	104 ¹ / ₂	+2
5% Deb. ...	131 ¹ / ₂	119	114 ¹ / ₂	—
2 ¹ / ₂ % Deb....	69 ³ / ₄	60	59	—
5% Rt. Charge ...	129	114	110 ¹ / ₂	+2
5% Cons. Guar. ...	128 ¹ / ₂	103	104 ¹ / ₂	+2
L.M.S.R.				
Ord. ...	30 ¹ / ₂	11	15 ¹ / ₂	+ ³ / ₄
4% Prefce. (1923)	70 ¹ / ₄	23	42	+2 ¹ / ₂
4% Prefce.	82 ¹ / ₄	43 ³ / ₄	60 ¹ / ₂	+1
5% Red.Pref.(1955)	103 ¹ / ₂	66	80 ¹ / ₂	+3
4% Deb.	105 ⁵ / ₁₆	85	93 ¹ / ₂	+1
5% Red.Deb.(1952)	114 ¹ / ₄	105	105 ¹ / ₂	—
4% Guar.	102 ³ / ₄	77 ¹ / ₂	85 ¹ / ₂	+2
L.N.E.R.				
5% Pref. Ord. ...	89 ¹ / ₁₆	3 ¹ / ₂	5	+ ¹ / ₂
Def. Ord. ...	47 ¹ / ₁₆	21 ¹ / ₁₆	27 ¹ / ₈	+ ³ / ₈
4% First Prefce.	68 ¹ / ₄	21	35	+2 ¹ / ₂
4% Second Prefce.	27 ¹ / ₄	8	14	+1
5% Red.Pref.(1955)	97	40 ¹ / ₄	50 ¹ / ₂	—
4% First Guar. ...	97 ¹ / ₂	66 ¹ / ₄	75 ¹ / ₂	+3
4% Second Guar.	91 ¹ / ₄	52	65 ¹ / ₂	+2
3% Deb.	79 ¹ / ₄	60	67 ¹ / ₂	+1
4% Deb.	104 ¹ / ₄	77	88 ¹ / ₂	+2
5% Red.Deb.(1947)	110 ⁵ / ₈	97	103 ¹ / ₂	—
4 ¹ / ₂ % Sinking Fund Red. Deb.	108 ¹ / ₁₆	101	100	—
SOUTHERN				
Pref. Ord. ...	87	17 ⁷ / ₈	70	+1 ¹ / ₂
Def. Ord. ...	21 ³ / ₄	9 ¹ / ₄	15 ¹ / ₂	+1
5% Pref.	115	83	94 ¹ / ₂	+1
5% Red.Pref.(1964)	115 ¹ / ₂	98	99 ¹ / ₂	+4
5% Guar. Prefce.	128 ¹ / ₂	106	109	+1
5% Red.Guar.Pref. (1957)	116	109 ¹ / ₂	108 ¹ / ₂	+1
4% Deb. ...	109 ¹ / ₄	95	98 ¹ / ₂	+1
5% Deb. ...	129	117	114	+1
4% Red. Deb.	107	101 ¹ / ₂	101 ¹ / ₂	—
1962-67				
BELFAST & C.D.				
Ord. ...	4	3 ¹ / ₂	4	—
FORTH BRIDGE				
4% Deb. ...	102	99 ¹ / ₈	94 ¹ / ₂	—
4% Guar.	103 ¹ / ₄	94 ¹ / ₂	92	—
G. NORTHERN (IRELAND)				
Ord. ...	5 ¹ / ₂	2 ¹ / ₂	3 ¹ / ₂	—
G. SOUTHERN (IRELAND)				
Ord. ...	25 ¹ / ₂	8 ¹ / ₂	8 ¹ / ₈	+1 ¹ / ₈
Prefce.	35	13	12	— ¹ / ₄
Guar.	70 ¹ / ₄	30 ¹ / ₁₅ ³ / ₂	26	+ ¹ / ₂
Deb.	83	56	47	+1
L.P.T.B.				
4 ¹ / ₂ % "A" ...	119 ⁵ / ₈	107 ¹ / ₂	107 ¹ / ₂ * ¹ / ₈	—
5% "A" ...	130	117	115 ¹ / ₂ * ¹ / ₈	+ ¹ / ₈
4 ¹ / ₂ % "T.F.A." ...	108	98	103 ¹ / ₂	—
5% "B" ...	122 ¹ / ₁₆ ¹ / ₁₆	105	110 ¹ / ₂ * ¹ / ₈	+1
"C" ...	84	68	71 ¹ / ₂	—
MERSEY				
Ord. ...	24 ¹ / ₄	16 ¹ / ₂	20	—
4% Perp. Deb.	102 ⁷ / ₈	94 ³ / ₄	91	—
3% Perp. Deb.	77	69	66 ¹ / ₂	—
3% Perp. Prefce.	66 ¹ / ₂	57	51 ¹ / ₂	—

* ex dividend

CONTRACTS AND TENDERS

New Substation Equipment for London Transport

The British Thomson-Houston Co. Ltd. has received from the London Passenger Transport Board two important orders for substation equipment in connection with the extension of the Central Line to Ruislip. The first of these orders comprises four air-cooled steel tank rectifier equipments of 2,000 kW. capacity, each with associated a.c. and d.c. switchgear for installation in a new building at Notting Hill Gate, where it will replace some very old rotary converters housed in a lift shaft, and will augment the supply at present obtained. The rectifiers will operate 12-phase, taking a supply at 11,000 volts, 33½ cycles, alternative feeds from Lots Road and Neasden power stations being available; they will be arranged for ready conversion to 50 cycles operation at a later date. The substation will be manually operated by a staff of attendants. The second contract covers a total of twelve 1,500 kW. water-cooled rectifiers with associated a.c. and d.c. switchgear to be installed in five substations situated between Old Oak Common and Ruislip. These also will be 12-phase equipments, but the incoming supply will be at 22,000 volts, 50 cycles. The substations will be operated from a control room by means of supervisory gear, whereby all necessary controls and indications can be carried out over a single pair of wires.

German Railway Locomotives for Iran

With its recent consignment of nine locomotives, Germany has completed the delivery of 65 locomotives to Iran, and also secured a further order for 150 from the same country, making 215 in all, learns Reuters Trade Service from foreign papers. The new locomotives will soon begin running on the new Bandar-Shapur line *via* Teheran to the Caspian Sea, which will thus be inaugurated throughout its length; so far only part has been worked.

Henry Berry & Co. Ltd. has received an order from the Gondal Railway Administration for one hydraulic locomotive pit jack to be supplied to the inspection of Messrs. Robert White & Partners.

The Chinese Government Purchasing Commission on behalf of the Ministry of Communications, China, has placed the following orders to the inspection of Messrs. Fox & Mayo for equipment required for the Szechuen-Yunnan Railway:—

Lamp Manufacturing & Railway Supplies Limited: 150 Ratchet track jacks.
P. & W. MacLellan Limited: Permanent way tools and equipment.
Hayward Tyler & Co. Ltd.: 10 sets of pumps with boilers.

George Turton Platts & Co. Ltd. has received an order from the Buenos Ayres Great Southern Railway for 1,000 steel spiral bogie bolster bearing springs.

John Fowler & Co. (Leeds) Ltd. has received an order for six diesel-mechanical locomotives equipped with flame-proof equipment for the Office of Works. Two further diesel locomotives have been ordered by the War Office, and like those for the Office of Works, will have 150-b.h.p. Fowler-Sanders engines. The gross tonnage of diesel locomotives now under construction at Fowler's works now exceeds 1,000.

Diesel Trains for Norway

The Norwegian State Railways Administration has placed an order with the Strommings Verksted for four three-car 1,300-b.h.p. diesel-electric trains for operation over the Oslo-Bergen route. They are to be delivered before the end of 1940. Each train is to be powered by two Maybach 650-b.h.p. oil engines fitted with Buchi pressure-chargers, and the transmission is to be of the hydraulic type. The trains are to seat 160 passengers and will have a 13-seat dining saloon on an estimated tare weight of 170 tons. The price is understood to be in the neighbourhood of £180,000.

Tangyes Limited has received an order from the Buenos Ayres Great Southern Railway for four vertical pumps.

The General Electric Co. Ltd. has received an order from the Great Western Railway for a twelve months' supply of Osram general service and train-lighting lamps.

Stewarts and Lloyds Limited has received an order from the Buenos Ayres Western Railway for 550 cold drawn, weldless steel superheater flue tubes.

The Crown Agents for the Colonies have recently placed the following orders:—

Norris, Henty & Gardner Limited: Diesel engines.
Electric Construction Co. Ltd.: Electrical equipment.
Torbay Paint Company: Enamel and paint.
Turners Asbestos Cement Company: Everite pipes.
Bullers Limited: Insulators.
Dean, Smith & Grace Limited: Lathe.
Lawler Ayers & Co. Ltd.: Lathes.
Universal Steel Tube Co. Ltd.: Locomotive steel tubes.
Albion Motors Limited: Lorry chassis.
Whitehead Iron & Steel Co. Ltd.: Mild-steel round sections.
Nobel Chemical Finishes Limited: Paint.
J. Bennie & Sons Ltd.: Shearing and punching machine.
Stewarts and Lloyds Limited: Steel piping.
Blaenavon Co. Ltd.: Steel tyres.
E. C. & J. Keay Limited: Steelwork.
Vacuum Brake Co. Ltd.: Vacuum brake cylinders.
George Kent Limited: Water meters.

Tubes Limited has received an order from the Buenos Ayres Great Southern Railway for 3,000 solid-drawn black steel boiler tubes.

The Maidstone & District Motor Services Limited is now undertaking a large fleet replacement programme. Many of the new oil-engined buses built by Leyland Motors Limited and comprising 34 single-deck "Tiger"

models and 30 double-deck "Titan" models, have already been delivered.

Howell & Co. Ltd. has received an order from the Buenos Ayres Western Railway for 4,000 solid-drawn black steel boiler tubes.

Hurst Nelson & Co. Ltd. has received an order from the Rhodesia Railways for five petrol tank wagons of 7,000 gal. capacity to be supplied to the inspection of Messrs. Freeman, Fox & Partners.

J. Spencer & Son Limited has received an order from the Buenos Ayres Great Southern Railway for 110 steel axles for carriages and wagons and 70 steel axles for locomotives.

Wagons Required for Brazil

The Administration of the Central Railway of Brazil is calling for tenders, to be presented in Rio de Janeiro by June 5, for the supply of 234 wagons. Firms desirous of offering wagons of United Kingdom manufacture can obtain further details of this call for tenders upon application to the Department of Overseas Trade, London, S.W.1. Reference number T.Y. 20972/39 should be quoted.

Locomotive Boilers Required for South Africa

The South African Railways & Harbours Administration is calling for tenders (Tender No. 2190) for the supply and delivery of 16 locomotive boilers for Class "12A" engines fitted with steel fireboxes. Tenders endorsed "Tender No. 2190, Locomotive Boilers" should reach the Secretary to the Tender Board, Room 420, South African Railways & Harbours Headquarter Offices, Johannesburg, by July 31. A copy of the specification and general conditions of tender, together with drawings, may be borrowed from the Department of Overseas Trade, Westminster, S.W.1.

The South African Railways & Harbours Administration is also calling for tenders (Tender No. 2189) for the supply and delivery of 45 locomotive boilers of standard types, 35 to be fitted with steel fireboxes and 10 to be fitted with composite fireboxes. Tenders endorsed "Tender No. 2189, Locomotive Boilers" should reach the Secretary to the Tender Board, Room 420, South African Railways & Harbours Headquarter Offices, Johannesburg, by August 8. A copy of the specifications and general conditions of tender, together with drawings, may be borrowed from the Department of Overseas Trade, London, S.W.1.

We are informed that Mr. W. Kelway-Bamber, M.I.LocoE., of 17, Victoria Street, Westminster, S.W.1, has been appointed by Les Ateliers Metallurgiques, S.A., Nivelles, Belgium, as London representative for locomotives and spare parts.

Since May 15, the address and telephone number of the Hull branch of the General Electric Co. Ltd. has been Magnet House, 83 and 84, Wright Street, Hull, and Tel. No.: Central 34627 (4 lines).

OFFICIAL NOTICES

Crown Agents for the Colonies

COLONIAL GOVERNMENT APPOINTMENTS
APPLICATIONS from qualified candidates
are invited for the following post:—

CHIEF DRAUGHTSMAN (MECHANICAL)
required for the Federated Malay States Rail-
way for three years with possible permanency.
Salary \$500 a month rising by annual incre-
ments of \$20 a month to \$600 a month. (The
Government rate of exchange is now 2s. 4d.
to the dollar.) A children's allowance is pay-
able to married officers with children. Free
passages, and if married, for wife and children,
not exceeding four persons, subject to certain
conditions. Liberal leave on full salary. Can-
didates, not more than 35 years of age, must
have served an apprenticeship with a British
Railway or firm of Locomotive Builders and
have had at least three years' experience in a
locomotive or Carriage and Wagon Drawing
Office. They must possess a Higher National
Certificate in Mechanical Engineering or
equivalent qualification.

Apply at once by letter, stating age, whether
married or single, and full particulars of
qualifications and experience, and mentioning
this paper, to the Crown Agents for the
Colonies, 4, Millbank, London, S.W.1, quoting
M/5699.

South Indian Railway Company Limited

The Directors are prepared to receive
Tenders for the supply of:—
**PRESSED STEEL SLEEPERS FOR 90 "R"
RAILS.**

Specifications and Forms of Tender will be
available at the Company's Offices, 91, Petty
France, Westminster, S.W.1.

Tenders addressed to the Chairman and
Directors of the South Indian Railway Com-
pany, Limited, marked "Tender for Pressed
Steel Sleepers," with the name of the firm
tendering, must be left with the undersigned
not later than 12 noon on Monday, the 19th
June, 1939.

The Directors do not bind themselves to
accept the lowest or any tender.

A charge, which will not be returned, will
be made of £1 for each copy of the specifi-
cation.

Copies of the drawings may be obtained at
the Offices of the Company's Consulting Engi-
neers, Messrs. Robert White & Partners, 3,
Victoria Street, Westminster, S.W.1.

E. A. S. BELL,
Managing Director.

91, Petty France,
Westminster, S.W.1.
24th May, 1939.

**PATENTS AND DESIGNS ACTS, 1907 TO
1938.**—Notice is hereby given that The
Pullman Company, of 79, East Adams Street,
City of Chicago, County of Cook, State of
Illinois, United States of America, seek leave
to amend the Specification of the Application
for Letters Patent No. 459,123 for an invention
entitled "Improvements relating to Railway
Sleeping Cars." Particulars of the proposed
amendment were set forth in No. 2627 of the
Official Journal (Patents), published on 24th
May, 1939. Any person, or persons, may give
Notice of Opposition to the amendment by
leaving Patents Form No. 19 at the Patent
Office, 25, Southampton Buildings, London,
W.C.2, within one calendar month from the
date of publication of the said Journal.—M. F.
LINDLEY, Comptroller-General.

Universal Directory of Railway Officials
and Railway Year Book

4th Annual Edition, 1939-39

Price 25/- net.

THE DIRECTORY PUBLISHING CO., LTD.
33, Tothill Street, Westminster, S.W.1.

RAILWAY AND OTHER REPORTS

Entre Rios Railways Co. Ltd.—
The directors have decided to pay on
June 1 a further six months' arrears
of interest on the 4 per cent. debenture
stock, together with the 5 per cent.
per annum interest on such arrears.
The total amounts to £2 4s. 4d. per
cent.

**Forestral Land, Timber & Railways
Co. Ltd.**—The credit balance on profit
and loss account for the year 1938
amounts to £326,971. Adding £130,760
brought forward makes an available
total of £457,731 (against £639,491).
General reserve has been increased by
£50,000, the dividend of 6 per cent. on
the cumulative preference stock ab-
sorbed £111,951, and the board recom-
mends the transfer to the dividend
equalisation account of £25,000 and the
payment of a final dividend on the
ordinary stock of 3 per cent. and a bonus
of 1 per cent. (both less tax), making,
with the interim dividend of 3 per cent.
paid in January last, a total distribution
of 7 per cent., less tax (against 9 per
cent.), leaving £132,557.

Emu Bay Railway Co. Ltd.—
Revenue for the year 1938 amounted to
£100,889, or £2,400 in excess of the 1937
figure, which was then a record. Nearly
all divisions of traffic showed an increase
but the improvement was more than
offset by the necessary increase in
expenditure for maintenance and re-
newals. Expenditure, including taxes
and interest, amounted to £83,534,
and after setting aside £9,124 as provi-
sion for depreciation and upkeep of
rolling stock, &c., there was a balance
of £8,231, which, added to the amount
brought forward, made a balance of
£8,275. The 4½ per cent. debenture
stock received on April 1 £5,891 interest
for the year ended December 31, 1938,
and £654 on account of arrears of
interest, and a provision of £1,650 was
made for exchange on such interest,
leaving £80 to be carried forward.

The short branch line from Zeehan to
Dundas has been closed for some years
and the ten-mile branch from Guildford
Junction to Waratah was closed to all
traffic as from March 31, 1939.

**Maidstone & District Motor Ser-
vices Limited.**—This company, which
is controlled jointly by the Southern
Railway Company and Tilling & British
Automobile Traction Limited, secured
for the year to March 31, 1939, a profit
of £122,817 (against £112,958 for 1937-
38), to which must be added £23,398
brought forward, making a total of
£146,215, compared with £135,773. The
dividend on the 6½ per cent. cumulative
preference shares takes £13,000, and the
directors recommend a dividend of
10 per cent. for the whole year on the
ordinary shares, requiring £75,000, and
a bonus of 1½ per cent. on the ordinary
shares, requiring £9,375. These divi-
dends and the bonus are unchanged.
The sum of £20,000 (against £15,000) is
allocated to reserve fund, leaving
£28,840 to be carried forward.

**A.B.C. Coupler & Engineering
Co. Ltd.**—The net profit for the year
ended September 30, 1938, amounted
to £8,003, compared with £7,051 for

the year 1936-37. The sum of £2,000
is transferred to general reserve, and a
dividend of 10 per cent., less tax, is
being paid on the ordinary shares,
requiring £1,925, and leaving £1,478
to be carried forward. The accumulated
loss of £17,978 to September 30, 1937,
was written off under the capital re-
organisation scheme sanctioned by the
Court in July, 1938. The improvement
in business reflected in the accounts is
being maintained, and orders for the
company's specialities still being received
should, if continued, enable sales for the
present year to be satisfactory.

Parliamentary Notes

L.M.S.R. Bill

The L.M.S.R. Bill was read a third
time and passed with one amendment in
the House of Lords on May 18. The
Lords amendment to the Bill was agreed to
by the House of Commons on May 22.
Sir Dennis Herbert (Chairman of Ways
and Means) explained that the amend-
ment was a saving clause for the
Warrington Corporation.

Southern Railway Bill

The Southern Railway Bill passed the
report stage in the House of Commons
on May 22. It was to be read the third
time yesterday (May 25).

Exports of Railway Material from the U.K. in April

	Four Months Ending			
	Apl., 1939	Apl., 1938	Apl., 1939	Apl., 1938
Locomotives, rail.	98,133	121,563	483,995	451,020
Carriages and wagons	136,387	239,744	767,287	1,113,070
Rails, steel	38,959	162,384	231,559	506,675
Wheels, sleepers, fishplates and miscel- laneous materials	130,926	209,224	587,919	693,319
Locomotive and rail exports included the following:—				
	Locomotives		Rails	
	Apl., 1939	Apl., 1938	Apl., 1939	Apl., 1938
Argentina	7,048	4,834	4,311	9,367
Union of South Africa	—	—	2,017	105,271
British India	36,458	22,688	6,557	7,389

* Figures not available

Railway Share Market

Holiday influences prevented any material improvement of business in the stock and share markets, but since the commencement of the new Stock Exchange account on Monday the upward movement in values has shown further progress. Sentiment was assisted by the more hopeful views current in regard to international politics, and the encouraging reports which continue to come to hand from industrial centres were again an important market factor.

Securities of the main line railways were responsive to the surrounding trend of markets and were aided by the excellent traffics for the past week, the gain of £207,000 having been in excess of market estimates. The "Square Deal" report has naturally increased confidence in the outlook, and, moreover, much more hopeful views remain current in regard to the half-yearly statements of the railways, the assumption being that during the next few weeks traffics are likely to continue to show good improvement.

Increased demand was reported for Great Western ordinary, which improved to 34½ in response to the further indica-

tions of increasing activity in the Welsh iron, coal, and tinplate industries which, if continued, should, of course, be reflected in the railway's receipts. Great Western 5 per cent. preference stock was quoted at 85 and the 4 per cent. debentures at 98½. L.M.S.R. ordinary moved up to 15½, and the 4 per cent. preference was 60½, the 4 per cent. 1923 preference 42, and the 4 per cent. guaranteed was firm at 85½. The market is talking of the possibility of a substantial improvement in the railway's traffics during the next few months, and there is now general confidence in prospects of a resumption of dividends on the 4 per cent. 1923 preference stock. In some quarters it is contended there are now possibilities of the full 4 per cent. forthcoming in respect of the current year. L.N.E.R. stocks also participated in the upward movement. The first preference was 35, the second preference 13½, and the first and second guaranteed 74½ and 65½ respectively. Last year the dividend on the second guaranteed stock was only just earned, but there now seem prospects that this year it may be earned with a good margin. Moreover, in many quarters it

will be considered very disappointing if the recovery in receipts is not sufficient to permit a payment on the first preference stock, although on present indications it would seem that not more than a small payment will be possible. A great deal will naturally depend on the traffic trend in the second half of the year. In particular the latter part of the year is usually the best period for the Southern. Southern preferred ordinary has been firm at 70, as has the deferred at 15½, while the 5 per cent. preference was quoted at 95.

Foreign railway securities failed to attract much attention, but they had a steadier appearance this week, and although they became a firmer market, Argentine railway stocks showed little response to the improving traffic position and outlook. B.A. Gt. Southern 4 per cent. debentures improved to 58 and Central Argentine and B.A. Western debentures were also better. Antofagasta declined, but a higher price was made by Nitrate Railways. American railway shares rallied and Canadian Pacific were 4½. Rises were shown by New York Centrals, Chesapekes, and Union Pacifics.

Traffic Table of Overseas and Foreign Railways Publishing Weekly Returns

Railways	Miles open 1938-39	Week Ending	Traffics for Week		No. of Weeks	Aggregate Traffics to Date			Shares or or Stock	Prices						
			Total this year	Inc. or Dec. compared with 1938		Totals		Increase or Decrease		Highest 1938	Lowest 1938	May 24, 1939	Yield (See Note)			
						This Year	Last Year									
South & Central America	Antofagasta (Chili) & Bolivia	834	21.5.39	£ 11,760	—	£ 5,770	20	269,730	345,540	—	75,810	Ord. Stk.	14	71½	7	Nil
	Argentine North Eastern ..	753	20.5.39	12,432	—	74	47	455,972	426,631	+	29,341	A. Deb.	82	75	70½	31½
	Argentine Transandine ..	—	—	—	—	—	—	—	—	—	—	6 p.c. Deb.	8	7	7	Nil
	Bolivar	174	April 1939	3,650	—	50	17	15,350	15,600	—	250	Bonds.	10	4	6	85½
	Brazil	—	—	—	—	—	—	—	—	—	—	Ord. Stk.	61½	31¼	4	Nil
	Buenos Ayres & Pacific ..	2,801	20.5.39	95,285	+	6,513	47	4,160,984	4,157,512	±	3,472	Mt. Deb.	151½	8	14	Nil
	Buenos Ayres Central ..	190	6.5.39	\$101,400	+	\$10,900	45	\$4,464,800	\$5,150,360	—	\$685,500	Ord. Stk.	175½	8½	9	Nil
	Buenos Ayres Gt. Southern ..	5,082	20.5.39	129,715	+	807	47	6,756,824	7,019,415	—	262,591	"	123½	5	7	Nil
	Buenos Ayres Western ..	1,930	20.5.39	60,050	+	18,673	47	2,178,474	2,129,777	+	48,697	Did.	6	2½	3½	Nil
	Central Argentine	3,700	20.5.39	129,274	+	23,440	47	5,553,107	5,638,344	—	85,237	Ord. Stk.	3	1¼	1	Nil
	Do.	—	—	—	—	—	—	—	—	—	—	Ord. Inc.	35½	5½	2½	Nil
	Cent. Uruguay of M. Video ..	972	13.5.39	20,850	+	321	46	847,108	839,681	+	7,427	Stk.	28	22½	22	87½
	Cordoba Central	1,218	—	—	—	—	—	—	—	—	—	1 Mt. Db.	1051½	104	103½	55½
	Costa Rica	188	Mar., 1939	23,469	—	12,546	39	200,680	233,338	—	32,658	Ord. Stk.	71½	3½	5	Nil
	Dorada	70	April 1939	11,900	—	2,200	17	52,300	60,900	—	8,600	1st Pref.	3/-	1/-	1	Nil
	Entre Rios	810	20.5.39	17,624	+	2,990	47	728,755	668,422	+	60,333	Ord. Sh.	—	—	—	—
	Great Western of Brazil ..	1,092	20.5.39	6,000	+	400	20	200,100	153,200	+	46,900	1st Pref.	6d.	6d.	½	Nil
	International of Cl. Amer. ..	794	Mar., 1939	\$213,868	+	\$31,186	12	\$514,264	\$394,574	+	\$119,690	Stk.	8	61½	7½	Nil
	Interoceanic of Mexico ..	—	—	—	—	—	—	—	—	—	—	Ord. Stk.	4	1	1½	Nil
	La Guaira & Caracas ..	22½	April 1939	5,880	+	825	18	21,700	19,730	+	1,970	"	7½	1½	1½	Nil
Leopoldina	1,918	20.5.39	15,030	—	1,035	20	386,082	372,507	+	13,575	Ord. Sh.	52/9	19½	18½	71½	
Mexican	483	14.5.39	\$276,000	+	\$80,200	19	\$6,054,300	\$5,894,100	±	\$160,200	Pr. Li. Stk.	60	55½	47½	125½	
Midland of Uruguay ..	319	April 1939	6,786	—	3,078	44	89,596	96,167	—	6,571	Pref.	55½	13½	2	Nil	
Nitrate	386	15.5.39	5,199	—	697	19	48,670	69,025	—	20,355	Pr. Li. Db.	23	20	19½	Nil	
Paraguay Central	274	20.5.39	\$2,714,000	—	\$1,451,000	47	\$144,388,000	\$148,524,000	—	\$4,136,000	Ord. Stk.	64	28	26½	79½	
Peruvian Corporation ..	1,059	April 1939	61,485	—	8,623	44	670,650	810,864	—	140,214	Ord. Sh.	15½	½	7½	119½	
Salvador	100	13.5.39	\$20,850	+	\$7,550	46	\$953,239	\$917,375	+	\$35,864	Deb. Stk.	2	1	2	Nil	
San Paulo	153½	14.5.39	36,550	—	697	19	566,049	606,750	—	40,701	"	—	—	—	—	
United of Havana	1,353	20.5.39	22,790	+	4,016	47	1,111,663	1,167,037	—	55,374	"	—	—	—	—	
Uruguay Northern	73	April 1939	715	—	291	44	9,813	9,484	+	329	"	—	—	—	—	
Canada	Canadian National	23,772	14.5.39	776,732	+	138,361	19	12,609,915	12,293,774	+	316,141	Perp. Dbs.	72	60	69	51½
	Canadian Northern	—	—	—	—	—	—	—	—	—	4 p.c.	104	90	96½	41½	
	Grand Trunk	—	—	—	—	—	—	—	—	—	Ord. Gar.	87½	41½	41½	Nil	
Canadian Pacific	17,186	14.5.39	543,200	+	72,800	19	8,935,400	9,065,800	—	130,400	"	—	—	—	—	
India	Assam Bengal	1,329	30.4.39	35,205	—	3,503	4	110,078	110,456	—	378	Ord. Stk.	81½	70	71½	45½
	Barsi Light	202	30.4.39	2,940	—	555	4	9,780	13,965	—	4,185	Ord. Sh.	60½	541½	50½	51½
	Bengal & North Western ..	2,108	10.5.39	88,429	—	3,432	6	323,175	367,865	—	44,690	Ord. Stk.	311	278	253	7½
	Bengal Doonars & Extension	161	10.5.39	2,389	—	614	6	10,864	13,874	—	3,010	"	89	83	85	75½
	Bengal-Nagpur	3,272	10.5.39	228,450	+	21,583	6	906,750	840,959	+	65,791	"	95½	90	86½	45½
	Bombay, Baroda & Cl. India	3,085	10.5.39	263,100	—	12,525	6	1,060,275	1,104,975	—	44,700	"	112½	95	101½	51½
	Madras & Southern Mahratta	2,967	30.4.39	177,900	+	9,200	4	529,200	503,046	—	26,154	"	108	97	99½	79½
	Rohilkund & Kumaon ..	571	10.5.39	17,187	—	2,822	6	64,676	76,922	—	12,246	"	308	285	270	61½
South Indian	2,531½	30.4.39	118,440	+	2,791	4	343,816	346,805	—	2,989	"	104	101	97½	51½	
Various	Beira-Umtali	204	Mar., 1939	76,658	—	8,175	26	476,574	528,588	—	52,014	—	—	—	—	—
	Egyptian Delta	623	30.4.39	4,992	—	181	4	15,191	15,728	—	537	Prf. Sh.	7½	5½	½	Nil
	Kenya & Uganda	1,625	April 1939	231,378	—	36,217	17	1,014,313	1,091,480	—	77,167	"	—	—	—	—
	Manila	—	—	—	—	—	—	—	—	—	B. Deb.	49	41	40½	85½	
	Midland of W. Australia ..	277	Mar., 1939	16,576	—	1,390	40	138,752	131,004	+	7,488	Inc. Deb.	938½	89	90½	47½
	Nigerian	1,900	8.4.39	28,068	—	4,677	2	30,525	40,630	—	10,105	"	—	—	—	—
	Rhodesia	2,442½	Mar., 1939	335,532	—	74,962	26	2,173,950	2,512,028	—	338,078	"	—	—	—	—
South Africa	13,284	29.4.39	637,003	+	24,558	5	2,670,743	2,481,544	+	189,199	"	—	—	—	—	
Victoria	4,774	Feb., 1939	701,353	—	98,195	35	6,217,729	6,441,057	—	223,328	"	—	—	—	—	

NOTE.—Yields are based on the approximate current prices and are within a fraction of 1½

† Receipts are calculated @ 1s. 6d. to the rupee

§ ex dividend

The variation in Sterling value of the Argentine paper peso has lately been so great that the method of converting the Sterling weekly receipts at the par rate of exchange has proved misleading, the amount being over estimated. The statements are based on the current rates of exchange and not on the par value